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the Curriculum Process Guide

developing curriculum for the 1990s

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The Curriculum Process Guide

School district curriculum development provides the crucial link between state guidelines and classroom instruction. The locally developed program enables the district to tailor state standards to the particular needs of all its students, provides context and continuity for teachers' efforts, and ensures that those efforts are part of a larger design. In effective schools, instruction is guided by a preplanned curriculum based on clear goals and objectives.

The 1989 Montana School Accreditation Standards require that local school districts "develop...written sequential curricula for each subject area. The curricula shall address learner goals as defined in ARM 10.55.602 and district educational goals." (Accreditation Standard 10.55.603 Curriculum Development and Assessment) In addition, school districts are required to review their curricula within a five-year cycle to be certain the learning program is keeping pace with policy, social and cultural change.

District program development involves planned, sequential activities that require a commitment of time and resources. The most effective curriculum guides are developed by the people who use them and allow classroom professionals sufficient flexibility to implement district goals and objectives with lessons that will work best with their students.

Montana Office of Public Instruction curriculum specialists designed this handbook to assist school districts as they undertake the process of developing curriculum. The process includes five steps, beginning with the formation of a curriculum committee and ending with curriculum assessment, each requiring that district personnel discuss a series of questions to be answered according to the needs of the local district. An appendix is included which offers a variety of samples and resources for curriculum development.

The use of this handbook and the curriculum development process should encourage effective schools in Montana.

Jan Cladouhos
Project Leader

Nancy Keenan
Superintendent of Public Instruction

1990

Local school districts are responsible for incorporating all required learner goals into their curriculum defining and organizing the program area learner goals into specific curricula and extending them to help students meet the challenges of the future.

-Montana School Accreditation Standards

The Curriculum Committee

Who should be included on the committee?

- Classroom teachers
- Department heads
- Building principals
- Program specialists (reading, gifted, media, art)
- Guidance counselors
- Curriculum coordinators
- School board representatives
- Parents
- Students
- Business and community representatives

How committed is the school board and administration to the committee's work?

- Will release time be provided?
- Will materials and consultants be provided?
- How will the board and administration work with the committee?
- Is the time table for curriculum development reasonable?
- Can the curriculum committee be a standing committee?
- Will implementation be supported through teacher in service?
- Will the curriculum be assessed through self-reporting, observation, or testing?

What will be the range of concerns for the curriculum committee?

- Will the committee consider curriculum K-12?
- How will the curriculum be articulated across grade levels?
- Will each instructional area (science, mathematics, etc.) be treated separately, will a cross-curricular design be attempted, or will a combination thereof be attempted?
- How will skills be integrated across the curriculum?
- How will departmental, post-secondary, and preschool experts be utilized?

How should the committee be organized?

- Can or should the committee be subdivided?
- Should it be divided by task, by level, by school, or by subject area?
- What provision will be made for the various committees to cooperate?
- What criteria will be used to choose the chairperson?

Can the committee assume responsibilities such as the following?

- Attain a realistic understanding of the proposed task
- Devote adequate time and energy to the project
- Become knowledgeable about current research
- Develop time lines while still allowing for flexibility and the unexpected
- Provide support staff or volunteer help for compiling information, typing, and duplicating reports and studies
- Define the critical roles of all committee members

What resources will the committee seek and utilize?

- Montana School Accreditation Manual and Model Learner Goals
- Resources listed in this handbook's appendix
- Curriculum guides from other districts, state education departments, and private organizations
- Consultants, college professors, Office of Public Instruction specialists, educators from other school districts
- Professional organizations
- Textbooks and professional libraries
- Advisory committees
- Community members, employers, students

> ***The school district shall establish curriculum and assessment devlopment processes as a cooperative effort of personnel certified in the program area and trustees, administrators, other teachers, students, specialists, parents, community, and when appropriate, state resource people.***
>
> ***-Montana School Accreditation Standards***

Current Philosophy and Practice

Philosophy is the most important part of curriculum development.

-Jerome Harste
University of Indiana

Defining present conditions

How does the present program satisfy the Montana School Accreditation Standards?

What is the school district's philosophy of education?

- Does it reflect current societal and individual needs?
- Does it reflect current educational research findings?
- Is revision necessary?

What are the district's goals?

- Are staff members well aware of the district goals?
- Does the professional staff reflect and advance the district philosophy and goals in their teaching, or do they oppose them?
- Should the goals be revised?

What are the goals of the instructional programs for each discipline?

- When and by whom were they written?
- How can the program goals be traced to the Montana Accreditation Program Standards?
- Do they reflect the district philosophy and goals?
- Do the goals reflect current research and practice?

How are decisions about instruction made?

- Are teachers involved in making decisions that affect how and what is taught?
- To what extent do academic department heads and administrators influence the programs?
- Are students involved in making decisions about how and what they learn?
- How do parents and other community members have opportunities for involvement?

How much information does the district have about the students?

- What is the socioeconomic, ethnic and educational background of the community?
- What is the prevailing attitude toward education?
- What percentage of students drop out of school, attend

universities or colleges, take vocational training, or find employment after high school?

- What do employers and postsecondary institutions say about recent graduates?
- Does the district obtain feedback from students through course evaluations, open comments, self-evaluation forms or follow-up surveys?

Does the curriculum provide for both group and individual needs of students?

- How are student needs identified? How are they met?
- Is instruction individualized? Is collaborative learning employed?

Is the present program teacher-centered? student-centered? subject-centered? textbook-centered?

- Is its present orientation deliberate?
- Is change desirable or possible?

How are changes in the program presently made?

- How are textbooks selected?
- How are new courses or teaching practices introduced?
- How are staff development programs chosen?

What is the district policy on community-based instruction, extended use of the school facilities, and use of community resource people for instruction?

> ***We have drifted into a curriculum by default, a curriculum of minimum expectations that resists the changes needed to keep pace with the demands of preparing students for contemporary life.***
>
> *-John A. Dossey*
> Everybody Counts

Curriculum making
is a politiacl act.

-Frederick Burton
NCTE Commision
on Curriculum

Examining present practices

In what ways is the present instructional program aimed at preparing students for some future activity? In what ways is it aimed at meeting immediate needs?

- Are these two aims in conflict? If so, is resolution possible?
- Under what conditions should one aim predominate over the other?

How does each content area prepare the student for his/her future?

- What connection exists between learning about a subject and learning to utilize the subject?
- Aside from the skills to use a subject for his or her own purposes, what else should each student learn or encounter?
- How much does drill and practice contribute to the ability of students to apply concepts?

How do the district programs meet the needs of at-risk students? (unmotivated, handicapped, disadvantaged and gifted)

Do students see a transfer from what is taught in one class to other disciplines?

- Is concern for the communication skills shared by all educators in the school? What other skills are transferable?
- Are program area skills integrated across curricular content?

Do students have opportunities in all subject areas to develop creative, critical and logical thinking skills?

Are students encouraged to relate their school experiences to the world and to careers in which they may be interested?

Is the library media center vital to the school program?

Evaluating present practices

Can curriculum mapping, an analysis of actual classroom instruction, be used to help articulate the curriculum and raise awareness of the "unwritten" curriculum?

- What areas of the curriculum will be mapped?
- How much detail will be included in the map?
- How will the data be gathered and reported?
- Will the number of minutes spent for each activity be recorded?
- How will mapping data be employed to improve the process of curriculum development?

Are students apathetic about certain aspects of the present program? Are they enthusiastic about some aspects?

- What conclusions can be drawn from these observations?
- How can curricular change take these feelings into account?

Which practices are working and which are not?

- What evidence indicates their success or failure?
- Which have value and should be modified?
- Which practices should be dropped?

Is the present program repetitious? Does it have critical omissions?

- Are some topics presented year after year?
- How does assessment assure that the K-12 sequence does not omit important requirements?
- Do students encounter a healthy variety of viewpoints, methods and materials from year to year and from teacher to teacher?

How will the examination of current philosophies and practices shape the development of a new curriculum?

> *We can improve. We can keep kids in school longer and achieve a better result. We cannot fail in education. If we fail, we fail our kids and we fail our future.*
>
> *-Jaime Escalant*
> Everybody Counts

Curriculum Development

A Curriculum...
is the enterprise par excellence where the line between subject matter and the method grows necessarily indistinct.

-Jerome Bruner
Curriculum: Perspective, Paradigm, and Possibility

How will the Program Area Standards (Subchapters 10-19) of the Montana School Accreditation Standards be incorporated into the district curriculum?

- Do district goals direct students toward these Learner Goals?
- Do course objectives lead logically to district goals?
- Will the Model Goals in the Appendix of the Montana School Accreditation Standards form the basis for district goals in each subject area?

Will the district develop a unique document or modify an existing curriculum developed through a state agency, professional organization, or other school district?

What format will the curriculum document take?

- Will the document contain a philosophy statement and broad program goals for each subject?
- How will course objectives be organized under each topic?
    - *Will objectives be introduced when developmentally appropriate?*
    - *Will objectives at each level be simply stated or will they be classified as introductory, developmental, mastery, and review?*
    - *Will the skills and concepts taught build upon each other?*
    - *Will objectives be prioritized?*

How detailed will the document be?

- Will teachers be expected to implement course objectives by making decisions about content, instructional methods, and classroom activities?
- Will the document provide activities, content requirements, and measures of skill attainment for each objective?

- Will the document contain suggestions for incorporating critical and creative thinking skills, career awareness, lifelong learning and safety into classroom activities?
- How will the document address the importance of integrating skills and knowledge across the content areas?

Will materials and resources be consistent with the goals of the educational program?

- Will textbook adoption be tied to curriculum development?
- Will required materials be listed in the guide, or will choice of materials be left to the discretion of the teacher?
- Will some topics in texts and supplementary materials be designated as optional to ensure that stated goals and objectives are met first?

How will current and appropriate technology be integrated into each curricular area?

How will the new document be printed, bound and distributed?

- Can the writers use modern technology to allow easy revision of the document?
- Will a notebook or looseleaf binder be utilized to provide flexibility?
- Will every staff member receive a copy?

***Always write curriculum in pencil:
the minute it's down on paper,
it's obsolete.***

-Jerome Harste
University of Indiana

Curriculum Implementation

An indisputable conclusion of research is that the quality of teaching makes a considerable difference in children's learning.

– Becoming a Nation of Readers

Is the district committed to effectively implementing the new curriculum?

How much staff development will be required?

- Will curriculum committee members meet with the entire staff to discuss the philosophy, goals and objectives of the new curriculum?
- Will administrators, specialists or consultants provide inservice for the staff concerning the new curriculum?
- Will teachers and support staff receive inservice regarding methods for developing lessons to meet the objectives or for implementing the activities suggested in the guide?

How much time, money, and materials will be needed?

To what degree must new resources replace existing texts, media, equipment, materials, books and supplies?

Must additional staff be hired or buildings be remodeled?

How can administrators, trustees and community members be informed regarding the need for effective curriculum implementation?

How can the community, parents, students and entire staff be supportive of the new curriculum?

Curriculum Assessment

Are the benefits of the new curriculum understandable to persons outside of subject areas? Are they understandable to other subject area specialists?

Do all the parts relate to each other?

- State Accreditation Standards to
- District philosophy to
- District goals to
- Program goals to
- Course objectives to
- Classroom practice

How will the district determine if the intended curriculum is being implemented?

How will student progress toward achieving goals in content and data, skills, critical thinking, reasoning and attitude be assessed?

Which will be the most effective and appropriate tools for assessing student progress?

- Standardized tests
    - criterion-referenced
    - norm-referenced
- District-developed tests
- Teacher-made tests
- Ongoing classroom evaluation
- Writing, speaking and listening assessments
    - tests with common prompts
    - writing portfolios

> ***"Effective schooling practices" include elements of schooling associatied with a clearly defined curriculum; focused classroom instruction and management; firm, consistent discipline; close monitoring of student perfromance and strong instructional leadership.***
>
> ***-Northwest Regional Educational Laboratory***

- Samples of student work and/or narrative reports
- Surveys of carryover skills to other program areas or beyond school walls
- Self-reporting
- Observation
- Follow-up studies of graduates or students no longer in attendance

Can assessments be scored and interpreted easily, promptly and economically?

How will assessment results be used to improve the educational program?

- What statistical measures will be used to determine when curricular change is desirable?
- What resources will be available for improved materials, more instructional time, additional support staff, inservice, or other changes?

How can the outcomes of assessment be used to elicit continued support from the community, parents, students and staff?

Can curriculum review be scheduled at intervals not to exceed five years and modified as needed?

Between now and the year 2000, for the first time in history, a majority of all new jobs will require post-secondary education.

– Workforce 2000

Appendix

Excerpts from Guidelines, Philosophy Statements and Curriculum Documents

The samples printed include a variety of philosophy or goal statements, guidelines for designing curriculum in particular subjects, and pages excerpted from existing curricular documents. Rules governing ***Program Area Standards*** from the **Montana School Accreditation Standards** are represented by one or more samples. For example, ***Cross-Content and Thinking Skills*** can be achieved by modeling the page entitled *Learner Goals for the Gifted & Talented.* The pages which compare *Features in Effective and Ineffective English-Language Arts Programs* or the policy statements used in Ohio may prove helpful in designing local learner goals in ***Communications Arts.***

Curriculum specialists from the Office of Public Instruction have chosen samples or guidelines which represent their program areas in a variety of formats.

In some cases, the entire guides are available from OPI or from the states or districts in which they

> ***Montana's new accreditation standards empower local school districts to define and organize their curricula and go beyond the basic instructional programs to meet the unique educational needs of their students. The standards reflect the shared commitment of school leaders to instructional excellence and an environment of professionalism.***
>
> ***– Nancy Keenan***
> ***Superintendent of***
> ***Public Instruction***

Montana Office of Public Instruction Resource Personnel

Curriculum specialists can provide technical assistance in curriculum development.

Professional Organizations

Many professional organizations have units that develop curriculum or are willing to review those documents developed by local districts.

Annotated Bibliography

These resources include some model curriculum guides, books about developing curriculum and books which reflect the latest research and trends in teaching the various subjects.

Excerpts from Sample Guides

Learner Goals for the Gifted and Talented

1. In order to effectively participate in formal learning experiences the gifted and talented student will develop the skills of being an effective communicator.

2. In order to prepare the gifted and talented students for leadership positions in the future, each student will accumulate knowledge and develop the understanding, application skills and affect essential to being an effective and active participant in both social and political communities at the local, state, national, and world levels.

3. In order to resolve issues and meet needs cooperatively, each student will know, use and value the skills and integrated processes of thinking such as concept development, problem solving, decisionmaking, valuing critical thinking, and creative hinking.

4. In order to contribute to a productive and fulfilling life, each student will develop the understanding, appreciation, knowledge, application skills essential to self-expression and the appreciation of others through creative and aesthetic endeavors.

5. In order to value and respect the uniqueness, diversity, and interdependence of humankind, and to act responsibly toward different groups, students will develop the knowledge, skills, and affect to understand, 1) the similarities and differences among people and the processes and context in which they develop, 2) the interdependence and interrelationships of different peoples, environmental resources, organizations, and agencies in the local and world community, and 3) one or more world languages and cultures.

6. In order to effectively address the problems of humankind each gifted and talented student will develop the knowledge, skills, and affect essential to working cooperatively through group effort, considering the varied belief systems and ethical frameworks which contribute to group living.

7. In order to effectively resolve conflict with and among others, each gifted and talented student will develop the knowledge, skills, and affect essential to assuming responsibility to form productive and satisfying relations with others, acting on the belief that each individual has value as a human being.

8. In order to act on contemporary events and issues with a perspective of their historical origins, each gifted and talented student will develop the knowledge, skills, and affect essential to understanding the origins of his or her own and other cultural, literacy, aesthetic and scientific traditions and the manner in which those traditions impact the direction and values of contemporary and future society.

9. In order to maintain a positive attitude toward self and to live with one's strengths and weakness each gifted and talented student will develop the knowledge, skills, and affect essential to understanding the roles that family, religion, and social interaction plays in becoming a self-actualized person.

10. In order to become an independent life-long learner, each gifted and talented student will develop the knowledge, skills, and affect which will enable him or her to establish, implement, and fulfill career choices, personal goals and accept responsibility for the consequences of one's own decisions.

11. In order to cope positively with change, each student will develop the knowledge, skills, and affect essential to understanding and recognizing the reality of and tensions inherent in continuous change and be able to anticipate, prepare for, and act to influence his or her personal and societal future.

12. In order to promote personal health and to create and maintain a healthy environment for everyone, each gifted and talented student will develop the knowledge, skills, and affect essential to make informed decisions, and function in the continuum of play-skill activities which include cooperating, accepting rules, controlling emotions, and maintaining self-satisfaction.

13. In order to assure meeting their unique and varied intellectual and aesthetic needs, the gifted and talented student will be provided with opportunities to pursue advanced learning and explore areas of special interest, talent, and ability .

-Minnesota Department of Education

Cross-Content and Thinking

As we enter the 1990s, thoughtful educators everywhere are calling attention to the importance of developing students' thinking skills through their experiences in school. We are witnessing the growth of a remarkable consensus that the achievement of basic literacy, while obviously necessary, is not a sufficient goal, and that students have the right to expect more from elementary and secondary education. Graduates must not only be literate; they must also be competent thinkers.

The goal of having students become competent thinkers has long been an educational ideal. And, for just as long, this ideal has eluded too many students in too many schools. Recent research, however,
provides a new perspective on how people learn to think. Pursuing these new ideas may provide the basis for future educational practices that can help students become skilled in thinking.

One of the most significant ideas emerging from recent research on thinking is that the mental processes we have customarily associated with thinking are not restricted to some advanced or "higher order" stage of mental development. Instead, "thinking skills" are intimately involved in successful learning of even elementary levels of reading, mathematics, and other subjects. Cognitive research on children's learning of basic skills such as reading and arithmetic reveals that cultivating key aspects of these thinking processes can and should be an intrinsic part of good instruction. Thinking, it appears, must pervade the entire school curriculum, for all students, from the earliest grades.

Modern cognitive theory resolves this conflict. It offers a perspective on learning that is thinking- and meaning-centered, yet insists on a central place for knowledge and instruction. Cognitive scientists today share with Piagetians a constructivist view of learning, asserting that people are not recorders of information but builders of knowledge structures. To know something is not must to have received information but also to have interpreted it and related it to other knowledge. To be skilled is not just to know how to perform some action gut also to know when to perform it and to adapt the performance to varied circumstances.

According to recent cognitive research:

- We must respect knowledge and expertise. Experts on a topic reason more powerfully about that topic and learn new things related to it more easily than they do on other topics.
- To teach using concepts generatively is to teach content and thinking skills at the same time.
- The thinking curriculum must attend not just to teaching skills and knowledge, but also to developing motivation for their use.
- The most successful programs prescribe cooperative problem solving and meaning-construction activities. The social setting provides occasions for modeling effective thinking strategies and demonstrating that the elements of critical thought are socially valued.
- Schools should consider organizing cognitive apprenticeships; that is seek ways to let students participate in disciplined and productive mental work, just as they once participated in craft apprenticeships. First, cognitive apprenticeships require a real task, second, they involve contextualized practice of tasks, not exercises on component skills, and third, they need plenty of opportunity to observes others doing the kind of work they are expected to learn to do.

from **Toward the Thinking Curriculum, 1989 Yearbook of the Association for Supervision and Curriculum Development**, edited by Lauren B. Resnik and Leopold E. Klopfer

Excerpts from Sample Guides

COMPARISON OF FEATURES IN EFFECTIVE AND INEFFECTIVE ENGLISH-LANGUAGE ARTS PROGRAMS

Given the goals, principles, and practices described in this English-Language Arts Framework. We can identify some general features that differentiate effective programs from those that are less effective.

EFFECTIVE FEATURES	INEFFECTIVE FEATURES
The Framework calls for	Rather than for . . . .
A literature-based program that encourages reading and exposes all students, including those whose primary language is not English, to significant literary works.	A skill-based program that uses brief, unfocused narratives and worksheets lacking meaningful content or constructed to teach independent skills in isolation.
Attention to values in literature that reflects the real dilemmas faced by all human beings and that represents traditional and modern classics across all the disciplines.	Superficial treatment of values in safe, diluted, or sterile texts dealing with trivial subjects or condescending themes.
Instructional programs that emphasize the **Integration** of listening, speaking, reading, and writing, and the teaching of language skills in meaningful contexts.	Instructional programs that focus on only one of the language arts at a time, such as reading without purposeful writing, discussion, and listening.
Instructional programs that **guide all students through a range of thinking processes** as they study content and focus on aesthetic, ethical, and cultural issues.	Instructional programs that limit some students, such as the less-prepared or limited English-proficient, to worksheets and activities addressing only low-level cognitive skills.
A systematic kindergarten through grade twelve developmental language arts program articulated and implemented on all grade levels.	A fragmented curriculum having little continuity from grade to grade or school to school.
A writing program that includes **attention to the various stages of the writing process** - from prewriting through post writing and from fluency and content through form and correctness.	A writing program in which students are merely assigned low-level tasks, and papers are read only for corrections.
An oral language program in which all students experience a variety of speaking and listening activities, individual and group, integrated with reading and writing.	An oral language program in which only the most verbally skilled students speak often or in which speaking is isolated from other language activities, such as reading and writing.

Communication Arts

A phonics program taught in meaningful contexts, kept simple, and completed in the early grades.	An intensive phonics program extending into the middle and even upper grades.
A school environment where teachers of all subjects **encourage** students to read widely, to write frequently, and to listen and speak effectively.	A school environment where teachers of other subjects delegate the responsibility of helping students acquire language arts skills solely to reading and English teachers.
A school environment where teachers, administrators, and other adults support the importance of language arts skills to the school program and **model** effective use of all the language arts, including listening, speaking, reading, and writing.	A school environment where teachers, administrators, and other adults demean the importance of language arts skills or offer poor models in their own speaking, reading, and writing.
A home environment where parents **model** effective listening, speaking, reading and writing and offer appropriate help with their children's homework.	A home environment where parents play a passive role as their children are learning the language arts.
Teacher preparation programs that graduate candidates with (1) a broad background in literature; (2) methods and processes of teaching language arts and higher-order thinking skills in meaningful contexts: (3) awareness of new research on how children learn; and (4) resources offering help in design and implementation of language arts programs.	Teacher training programs that emphasize only instructional methodology or the teaching of isolated language skills.
An assessment program encompassing the full range of goals of the English language arts program, **aligned** with what students are expected to learn in the English-language	An assessment program emphasizing the testing of narrowly focused, isolated, or low-level skills.

In summary, the English-language arts curriculum must provide students, through their study and understanding of literature and their experiences in listening, speaking, reading, and writing, with a level literacy and fluency that enables them to become informed and responsible citizens, competent and successful members of the work force, and thinking, fulfilled individuals within our society.

California Literatuare Project Workshop at NCTE, 1989

Policy Statement 1

(Program Objective)

Students will engage in meaningful reading, writing, and speaking activities for a variety of purposes and audiences.

"Each of us is like a desert, and a literary work is like a cry from the desert, or like a pigeon let loose with a message in its claws, or like a bottle thrown into the sea. The point is: to be heard – even if by one single person."

– Francois Mauriac

Rationale

When students have a purpose for, care about, and can make sense of reading and writing activities, they become better and more prolific readers and writers. Their literacy is further enhanced when students communicate with numerous real audiences. [References: Arthur Applebee, Nancie Atwell, James Britton, Lucy Caulkins, Ken Goodman, Donald Graves, Donald Murray, Louise Rosenblatt, Frank Smith]

Policy Statement Objectives: the core curriculum

(Subject Objectives)

K—2	3—5	6—8 (See additional objectives)	9—12 (See additional objectives)
A Participates daily in reading and writing processes.	A Participates daily in reading and writing processes.	A Participates daily in reading and writing processes.	A Participates daily in reading and writing processes.
B Reads, writes, and speaks for a variety of purposes and audiences	B Reads, writes, and speaks for a variety of purposes and audiences	B Reads, writes, and speaks for a variety of purposes and audiences	B Reads, writes, and speaks for a variety of purposes and audiences
C Begins to relate one literary work to another	C Begins to relate one literary work to another	C Begins to relate one literary work to another	C Begins to relate one literary work to another
	D Reads prose, informational literature, and/or poetry for a sustained period every day	D Reads prose, informational literature, and/or poetry for a sustained period	D Reads prose, informational literature, and/or poetry for a sustained period
		E Identifies purpose for reading, writing, and speaking	E Identifies purpose for reading, writing, and speaking

Suggested Learning Experiences/Events

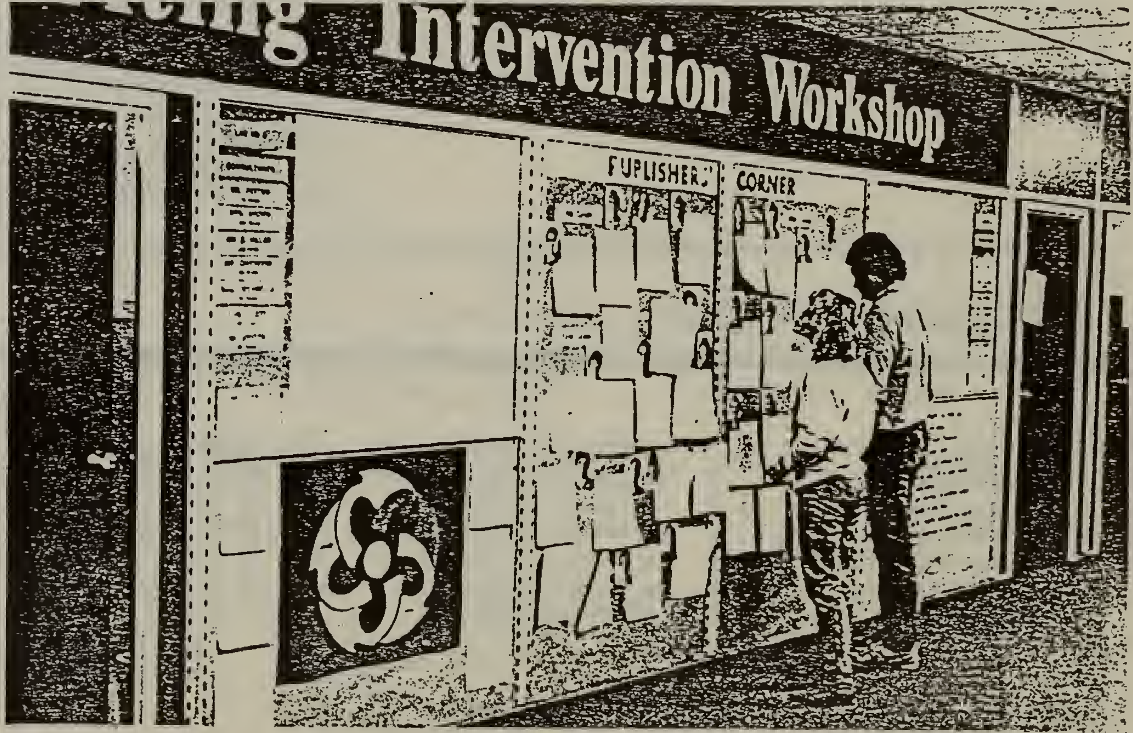
K—2	3—5	6—8	9—12
■ Discussions ■ Imaginary stories and poems ■ Observations ■ Letters, thank you notes ■ Presentations ■ Graphs, lists, charts ■ Author's circle ■ Content area logs ■ Informational reading/writing ■ Reading/writing workshop	■ Discussions ■ Imaginary stories and poems ■ Observations ■ Letters, thank you notes ■ Presentations ■ Graphs, lists, charts ■ Author's circle ■ Content area logs ■ Informational reading/writing ■ Reading/writing workshop	■ In-depth book discussions ■ Imaginary stories and poems ■ Observations ■ Letters, thank you notes ■ Presentations ■ Reader response journals ■ Brainstorming ■ Checklist for writing folders ■ Essays ■ Information articles ■ Poetry journals ■ Sustained silent reading of whole pieces of poetry, prose, and informational literature ■ Oral response, both individual and group ■ Readers' theater ■ Student publications	■ In-depth book discussions ■ Imaginary stories and poems ■ Observations ■ Letters, thank you notes ■ Presentations ■ Reader response journals ■ Brainstorming ■ Checklist for writing folders ■ Essays ■ Information articles ■ Poetry journals ■ Sustained silent reading of whole pieces of poetry, prose, and informational literature ■ Oral response, both individual and group ■ Readers' theater ■ Student publications and contests

Assessment Opportunities

K—2	3—5	6—8	9—12
■ Writing portfolio ■ Literacy folder ■ Teacher observations ■ Teacher-pupil conferences ■ Student written work ■ Anecdotal records ■ Holistic scoring	■ Writing portfolio ■ Literacy folder ■ Teacher observations ■ Teacher-pupil conferences ■ Student written work ■ Anecdotal records ■ Holistic scoring	■ Writing portfolio ■ Literacy folder ■ Teacher observations ■ Teacher-pupil conferences ■ Student written work ■ Anecdotal records	■ Writing portfolio ■ Literacy folder ■ Teacher observations ■ Teacher-pupil conferences ■ Student written work ■ Anecdotal records

Intervention Possibilities

K—2	3—5	6—8	9—12
■ Risk free environment ■ Shared reading and writing ■ Teacher-pupil conferences ■ Home support ■ Author's circle ■ Self selection of books and topics	■ Risk free environment ■ Shared reading and writing ■ Teacher-pupil conferences ■ Home support ■ Author's circle ■ Self selection of books and topics ■ Interest inventories	■ Teacher-pupil conferences ■ Home support ■ Self selection of books and topics ■ Reading, subject, or interest inventories ■ Peer instruction	■ Teacher-pupil conferences ■ Home support ■ Self selection of books and topics ■ Reading, subject, or interest inventories ■ Writing Intervention Workshop ■ Family or peer instruction



Basic Program: Three Levels

Level I

Proficiency Descriptions

The following proficiency descriptions for modern and classical languages provide a portrait of what a student will typically be able to do after Level I in terms of each linguistic skill and the concepts of culture and language:

Modern Languages

Listening

Able to understand and discriminate many sounds in meaningful context and to understand some short learned utterances, particularly where context strongly supports understanding and speech is audible. Comprehends some words and phrases from simple questions, statements, and high-frequency commands and courtesy formulae about topics that refer to basic personal information or the immediate physical setting. Requires frequent repetitions, long pauses between understood phrases, and/or a slowed rate of speech for comprehension.

Speaking

Able to produce isolated words and learned phrases within very predictable areas of need. Uses correct stress and intonation only in the repetition of brief learned utterances. Vocabulary is sufficient for handling simple, elementary needs and expressing basic courtesies. Speech is characterized by frequent long pauses and repetition of words. Asks only the most basic questions, gives and responds to simple commands, or makes two or three word utterances, and only in areas involving learned material about daily life situations or routine courtesies. Some speakers will be understood only with great difficulty.

Reading

Able to understand the written language to interpret set expressions in areas of practical need. Reads recombinations of very familiar material orally with generally accurate pronunciation and intonation but with frequent pauses, hesitation, and repetition. For instructional and directional purposes and where vocabulary has been learned, reads some standardized messages, phrases, or expressions such as some items on menus, schedules, timetables, maps, and signs. At times, but not on a consistent basis, may be able to derive meaning from material at a slightly higher level, where context and/or extralinguistic background knowledge are supportive.

Writing

Able to copy or transcribe from very familiar textual material with basic spelling, capitalization, and punctuation conventions. Transcription will be from well-learned material. Reproduces some words or phrases from memory. No practical communicative writing skills.

Culture

Has some knowledge about and has begun to gain some experience in selected aspects of the culture similar and dissimilar to one's native culture. Has some knowledge about cultural patterns requisite for survival situations such as traveling and ordering a meal but is very limited in implementing the patterns. Is aware that people in the culture sometimes behave in an unfamiliar fashion but is unable to interpret the differences. Exhibits considerateness when interacting with a native speaker of the language.

Language

Able to generalize about the most elementary language operations and language learning tasks. Has the beginnings of a heightened awareness of English and how in many ways it is related to the second language. Understands that ideas are communicated through language but that each language has its particular system. Is aware that nonlinguistic elements such as gestures and physical distance play an important role in communication but frequently misunderstands or misinterprets these elements. Understands that errors made in language skills development are to be expected and used to improve future learning of the language.

Excerpts from Sample Guides

Classical Languages

Listening

Able to understand and discriminate many sounds in meaningful context and to understand some short learned utterances, particularly where context strongly supports understanding and speech is audible. Comprehends some words and phrases from simple questions, statements, and high-frequency commands. Requires frequent repetitions, long pauses between understood phrases, and/or a slowed rate of speech for comprehension.

Speaking

Able to produce isolated words and learned phrases to satisfy classroom needs. Uses correct stress and intonation only in the repetition of brief learned utterances. Vocabulary is sufficient for handling simple, elementary classroom needs. Speech is characterized by frequent long pauses and repetition of words. Asks only the most basic questions, gives and responds to simple commands, or makes two or three word utterances, and only in areas involving learned material. Some speakers will be understood only with great difficulty.

Reading

Able to understand the written language to interpret set expressions from specially prepared materials. Reads recombinations of very familiar material orally with generally accurate pronunciation and intonation but with frequent pauses, hesitation, and repetition. For instructional purposes and where vocabulary has been learned, reads some standardized simple phrases and expressions. At times, but not on a consistent basis, may be able to derive meaning from material at a slightly higher level, where context and/or extralinguistic background knowledge are supportive.

Writing

Able to copy or transcribe from very familiar textual material with basic spelling, capitalization, and punctuation conventions. Transcription will be from well-learned material. Reproduces some words or phrases from memory. No practical communicative writing skills.

Culture

Has some knowledge about and has begun to gain some experience in selected aspects of the culture similar and dissimilar to one's native culture. Has some knowledge about cultural patterns such as greeting and leave taking, expressing wants, and asking questions. Is aware that people in the culture sometimes behaved in an unfamiliar fashion but is unable to interpret the differences.

Language

Able to generalize about the most elementary language operations and language learning tasks. Has the beginnings of a heightened awareness of English and how in many ways it is related to the second language. Understands that ideas are communicated through language but that each language has its particular system. Is aware that nonlinguistic elements such as gestures and facial expressions play an important role in communication. Understands that errors made in language skills development are to be expected and used to improve future learning of the language.

Listening: Level I

Standard Components

The following are important ingredients district curriculum planners use to develop goals and learner outcomes for each course:

Program Goal

Skills and concepts that result in the understanding of most routine questions, statements, commands, and the gist of everyday conversations on nontechnical subjects.

Proficiency Description

Able to understand and discriminate many sounds in meaningful context and to understand some short learned utterances, particularly where context strongly supports understanding and speech is audible. Comprehends some words and phrases from simple questions, statements, and high-frequency commands and courtesy formulae about topics that refer to basic personal information or the immediate physical setting. Requires frequent repetitions, long pauses between understood phrases, and/or a slowed rate of speech for comprehension.

Subelements

1. Discriminate sounds in meaningful contexts
2. Distinguish variations in sounds and intonation patterns
3. Comprehend basic structures, expressions, and common vocabulary

Recommended Treatments for Subelements

The following illustrates how teachers might use a subelement in the development of learner outcomes and in the planning of appropriate teaching and evaluation activities:

Subelement 1

Discriminate sounds in meaningful contexts

Suggested Learner Outcomes

- The student will understand and discriminate sounds in meaningful contexts.
- The student will hear and discriminate among the Spanish vowels.
- The student will hear and discriminate among the Spanish consonants.

Suggested Teaching Activity

The student hears two words and identifies a specific sound in one of the words. Example: Which word has the sound of *a? gato/techo?*

Suggested Evaluation Strategy

The student listens to short sentences or phrases and counts the number of particular vowels in the string. Example: Listen to the sound you will look for in the verbal segment that follows. How many instances of that sound do you hear?

1. *o*
   si me prometes lavarlo (2)
2. *ie*
   Sugiero que te sientes ahora. (2)
3. *ue*
   ¿Tiro los huesos o los huevos? (2)
4. (fricative) *g*
   ¿Qué vas a comprar? Garbanzos, jamón, y aguacates. (1)

Subelement 2

Distinguish variations in sounds and intonation patterns

Suggested Learner Outcomes

- The student will distinguish variations in sounds and intonation patterns.
- The student will distinguish variations in sounds and intonation patterns of questions, statements, and commands.
- The student will demonstrate comprehension of questions and commands through physical actions.

Suggested Teaching Activities

- The teacher reads various sentence patterns to students. The students see if they can determine if they are questions, statements, commands, or exclamations. Example: The students listen to a pair of sentence patterns. The teacher asks, "Did you hear a question and a statement? Two questions? Two statements? A command and an exclamation? Two commands? Two exclamations?" Sample sentence patterns: *¿De veras? Ven. El niño es bueno. ¡Dios mío!*
- Using pictures as cues for meaning, the student points to the names of objects, places, etc., depicted.

Excerpts from Sample Guides

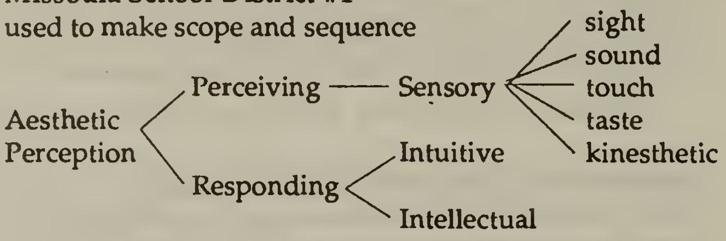
A flow chart is a tool we used to involve the staff in brainstorming our curriculum area. The flow chart was then used to write the scope and sequence; a pictorial outline of the developmental stages of each grade level. The scope and sequence was then used to write the learner outcomes (what the student will be able to do). The learner outcomes then can be used to determine materials, i.e., what books, and supplies will be used. The learner outcomes should also reflect the curriculum philosophy.

—Jackie Alford,
Missoula School
District #1

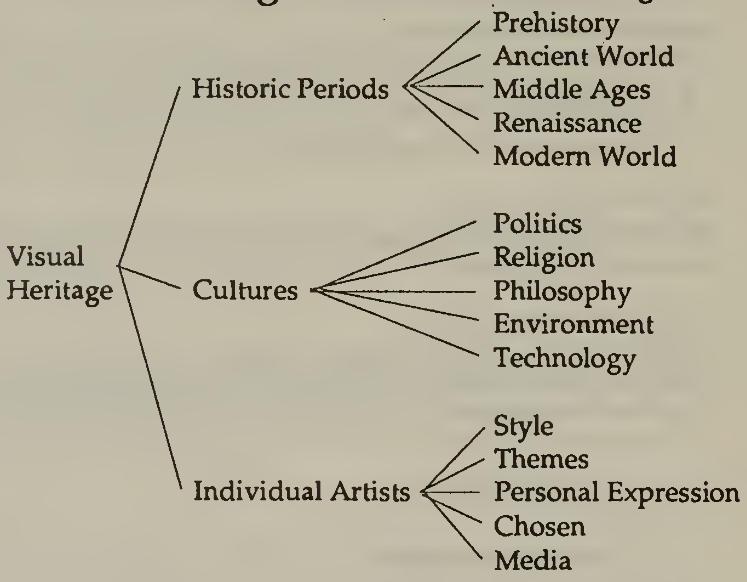
Aesthetic Perception **Flow Chart/Brainstorming**

Missoula School District #1

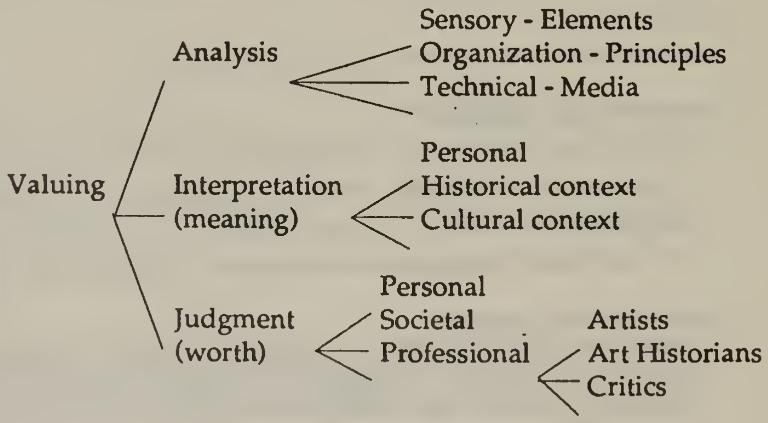
used to make scope and sequence



Visual Heritage **Flow Chart/Brainstorming**



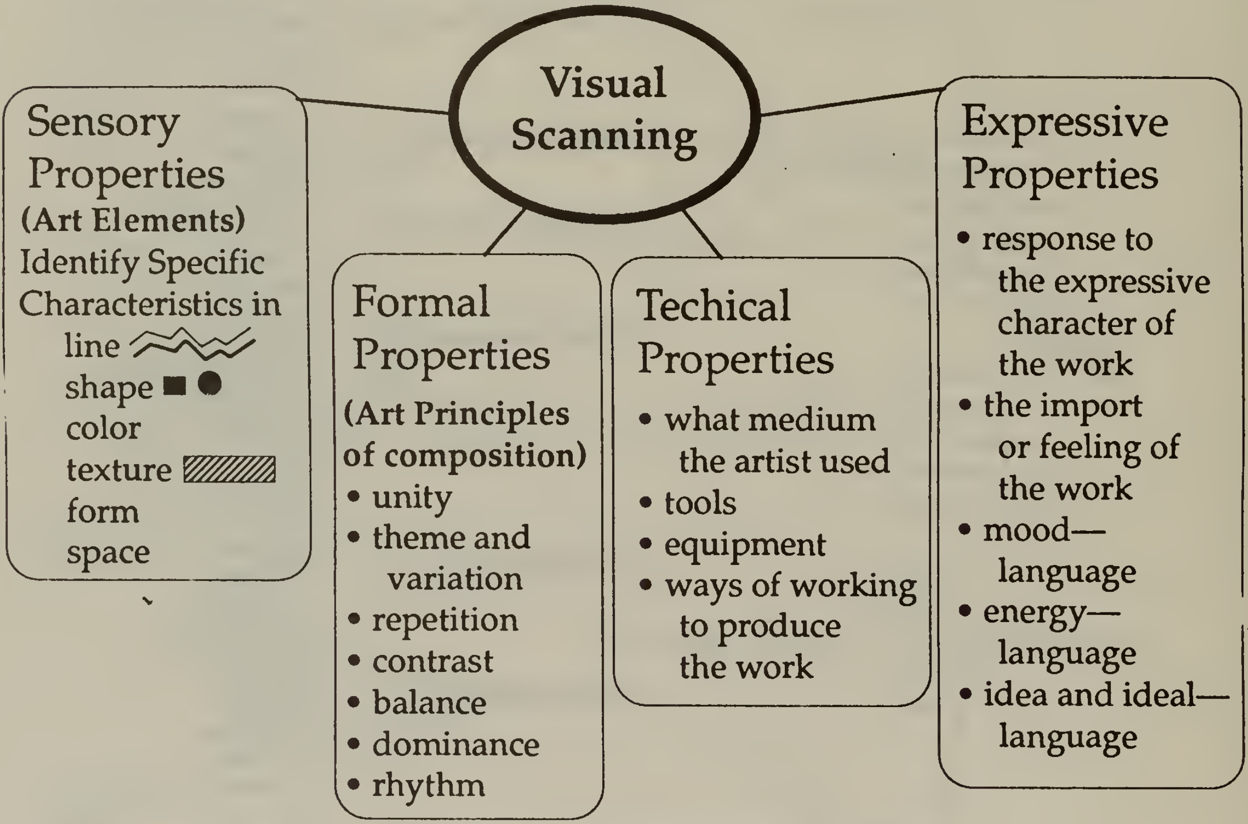
Valuing **Flow Chart/Brainstorming**



Making Art Flow Chart/Brainstorming

- MAKING ART
  - Creativity
    - Expression of ideas
    - Critical thinking
    - Media exploration
  - Personal Expression
    - Identify own feelings
    - Respond to external events
    - Media exploration
  - Basic Skills
    - Design elements
      - line/shape/form
      - color/value
      - space
      - texture
    - Balance/unity
      - repetition
      - contrast
      - emphasis
      - rhythm/motion
    - Principles of composition
    - Media Exploration
      - drawing
      - painting
      - sculpture
      - architecture
      - environmental design
      - printmaking
      - ceramics
      - fibers
      - metals
      - film
  - Careers
    - Fine Artists
      - Painters
      - Sculptors
      - Ceramicists
    - Designers
      - Industrial
      - Interior
      - Fashion
      - Landscape
      - Architect
      - Theater
        - Set
        - Costume
    - Craftspeople
      - Textile
      - Pottery
      - Metalsmith
      - Glass
    - Graphic
      - Commercial
      - Cartoonist
      - Photographer
      - Illustrator
        - Book
        - Scientific
        - Technical
      - Printmaker
      - Calligrapher
    - Academics
      - Teachers
      - Writers
      - Historians
      - Critics
      - Museum

Sample
Visual Scanning Chart (Aesthetic Scanning)



Visual Scanning

Sensory Properties
(Art Elements)
Identify Specific Characteristics in
- line 〰
- shape ■ ●
- color
- texture ▨
- form
- space

Formal Properties
(Art Principles of composition)
- unity
- theme and variation
- repetition
- contrast
- balance
- dominance
- rhythm

Techical Properties
- what medium the artist used
- tools
- equipment
- ways of working to produce the work

Expressive Properties
- response to the expressive character of the work
- the import or feeling of the work
- mood—language
- energy—language
- idea and ideal—language

Sample Scope and Sequence, Grades K-8

Aesthetic Perception, Component 1	K	1	2	3	4	5	6	7	8
I. Perceiving									
A. Sensory		D	D	D	D	D	D	D	D
II. Responding									
A. Intuitive		D	D	D	D	D	D	D	D
B. Intellectual					D	D	D	D	D

I = introduce

D = develop

M = maintain

Making Art, Component 2	K	1	2	3	4	5	6	7	8
I. Making Art									
A. Creativity									
1. expression of ideas	I	D	D	D	D	D	D	D	D
2. critical thinking	I	D	D	D	D	D	D	D	D
3. media exploration	I	D	D	D	D	D	D	D	D
B. Personal Expression									
1. identify own feelings	I	D	D	D	D	D	D	D	D
2. respond to external events								I/D	D
3. media exploration	I	D	D	D	D	D	D	D	D
C. Basic Skills									
1. elements of design									
a. line	I	D	D	D	D	D	D	D	D
b. shape/form	I	D	D	D	D	D	D	D	D
c. color/value	I	D	D	D	D	D	D	D	D
d. space		I	D	D	D	D	D	D	D
e. texture	I	D	D	D	D	D	D	D	D
2. principles of composition									
a. balance/unity				I	D	D	D	D	D
b. rhythm/movement				I	D	D	D	D	D
c. emphasis			I	D	D	D	D	D	D
d. contrast		I	D	D	D	D	D	D	D
e. repetition-variation		I	D	D	D	D	D	D	D
3. media exploration									
a. drawing	I	D	D	D	D	D	D	D	D
b. painting	I	D	D	D	D	D	D	D	D
c. sculpture	I	D	D	D	D	D	D	D	D
d. architecture		I	D	D	D	D	D	D	D
e. environmental design		I	D	D	D	D	D	D	D
f. printmaking	I	D	D	D	D	D	D	D	D
g. ceramics	I	D	D	D	D	D	D	D	D
h. fibers	I	D	D	D	D	D	D	D	D
i. metals								I	D
j. film	I	D	D	D	D	D	D	D	D

I = introduce

D = develop

M = maintain

Sample Scope and Sequence, Grades K-8

D. Careers									
1. fine artists	I	D	D	D	D	D	D	D	D
2. designers					I	D	D	D	D
3. craftspeople		I	D	D	D	D	D	D	D
4. graphics	I	D	D	D	D	D	D	D	D
5. academic					I	D	D	D	D

Visual Heritage, Component 3	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
I. Historic Periods							I	I	I
A. prehistory							I		
B. ancient world							I		
C. middle ages							I		
D. Renaissance							I		
E. Modern World							I	I	I
II. Cultures	I	I	I	I	I	I	D	D	D
III. Individual Artist	I	I	I	I	I	I	I	I	I

I = introduce

D = develop

M = maintain

Analysis, Interpretation and Judgment, Component 4	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
I. Analysis									
A. sensory		I	I	I	I	I	I	I	I
B. organization				I	I	I	I	I	I
C. technical/media	I	I	I	I	I	D	D	D	D
II. Interpretation(meaning)									
A. personal					I	I	I	I	I
B. historical							I	I	I
C. cultural							I	I	I
III. Judgment									
A. personal			I	I	I	I	I	I	I
B. society							I	I	I
C. professional								I	I

I = introduce

D = develop

M = maintain

PHYSICAL DEVELOPMENT AND HEALTH
GRADE 8

STATE GOAL FOR LEARNING 2

As a result of their schooling, students will be able to understand principles of nutrition, exercise, efficient management of emotional stress, positive self-concept development, drug use and abuse, and the prevention and treatment of illness.

SAMPLE LEARNING OBJECTIVES FOR GOAL 2

By the end of GRADE 8, students should be able to:

Physical Development

B1. Know the effects of overload, specificity, frequency, duration, intensity on aerobic and anaerobic training.

B2. Know how muscle energy is developed.

B3. Know the structures in the body which control flexibility.

B4. Know the changes in heart, lung, muscle, bone and connective tissue resulting from physical exercise.

C1. Know the contribution of appropriate skills and activities which promote cardiorespiratory fitness, muscular strength, flexibility and body composition.

Health

F1. Recognize the relationship between caloric intake and growth.

F2. Identify the function and source of each nutrient.

F3. Understand the function of each part of the digestive system.

F4. Understand the importance of a balanced diet to the adolescent's development.

G1. Understand common eating disorders among adolescents.

G2. Recognize potential outcomes of obesity.

G3. Understand the potential hazards of an excessive use of nutrients as they relate to disease.

Excerpts from Sample Guides

Fourth Grade

Aquatics (Competency I), Body and Spatial Awareness (Competency II) and Fundamental Movement Skills (Competency IV) are not presented at this grade level but may be included at the discretion of the local school district.

COMPETENCY III: Developmental Games/Activities

Demonstrate proficiency in the application of movement, knowledge, and social skills in low-organized and lead-up games.

The student will:

1. Demonstrate motor skills, knowledge of the rules and basic offensive or defensive strategies of at least four lead-up sport skill games, e.g., "Beach Ball Volley," "Line Soccer," "Dribble Tag," and "Tee Ball."
2. Design/create a game with objectives, rules, and strategies for two players.
3. Demonstrate a willingness to participate in movement activities and games to derive pleasure, realize creative expression, and promote group socialization potential.

COMPETENCY V: Gymnastics

Demonstrate knowledge, safety and performance skills required in the starting, executing, and finishing movements associated with gymnastic stunts, tumbling and apparatus.

The student will:

1. Demonstrate body control in a continuous routine while performing at least one balance and two body rotations activities, e.g., scale, head stand, forward roll, backward roll, cartwheel, handspring and round-off.
2. Perform three stunts and identify critical points of beginning, execution, and finish positions for each stunt.
3. Perform a bent hip squat vault on a chest high vaulting horse by utilizing a two-foot take off, raising hips and tucking knees to chest; reaching forward and placing hands on top of box; rapidly pushing down on box, lifting chest, then lifting arms forward; after legs pass over the box, extending legs and body; landing with flexed knees and hips.

COMPETENCY VI: Personal Fitness/ Healthy Life Style

Demonstrate a knowledge of basic physiological principles related to the components of physical fitness including body composition, cardiorespiratory functioning, joint flexibility, muscular strength and endurance; and application of fitness principles in one's life style.

The student will:

1. Perform above the 25%ile on each of the AAHPERD Health Related Physical Fitness items. (Local school district may establish a minimal fitness competency level(s) above the 25%ile.)
    a. Demonstrate an improved and/or acceptable level of body composition as measured by pre and post AAHPERD skinfold tests.
    b. Demonstrate an improved and/or acceptable level of cardiorespiratory fitness as measured by pre and post AAHPERD distance run tests.
    c. Demonstrate an improved and/or acceptable level of low back flexibility as measured by pre and post AAHPERD sit and reach tests.
    d. Demonstrate an improved and/or acceptable level of abdominal strength as measured by pre and post AAHPERD bent-knee sit-up tests.
2. Describe various sites for taking skinfold measurements. Be aware of the relationship between diet, exercise (or lack of exercise) and obesity.
3. Demonstrate at least two minutes of safe and appropriate warm-up and cool-down techniques for aerobic exercise.
4. Select and demonstrate one exercise for the development of flexibility at each major body joint.
5. Identify and locate the major muscle groups, e.g., quadriceps, hamstrings, shoulder flexors/ extensors, and demonstrate one appropriate developmental exercise for each major muscle group. Knows how skeletal alignment and posture are affected by muscular strength.
6. Identify games and activities which aid in stress reduction and recognize that personal stress can be reduced by developing a positive self concept (good sportsmanship, control of temper, and dealing objectively with mistakes of self and others).

Sample Lesson

Junior High – Nutrition

Specific Topical Key: Personal Eating Plan

Approximate Time: 100 minutes (ongoing)

Objectives

Students will develop a positive eating plan that takes into account sugar, sodium, fat, other nutrients, and fiber content.

- Students will use information on food labels to compare the ingredients and nutritional value of high-sugar and unenriched grain products.
- Students will suggest ways to substitute more nutritious foods for high-sugar and unenriched grain products in their diets.

Activities

Collect front and back labels, complete wrappers, or boxes or containers from "sugar" products—candies, jams, jellies, flavored gelatins, toppings, syrups. Also collect them from unenriched grain products like bagels, buns, some macaroni-type foods, and any other grain products with labels that say "unenriched" or that don't specifically say "enriched" if whole-grain flour is missing. Mount or staple them on sheets of paper so that backs and fronts do not get separated and so they are easy to store. Students may wish to help collection and mounting.

Pass the label sheets around in class. Ask students to look at all the labels and identify similarities among products. They should find that

1) carbohydrate—starch or sugar—is a major ingredient (energy source) in all;
2) all contain few or no minerals, vitamins, protein;
3) the number of calories per serving is relatively large, especially for sugar products;
4) for those with "pull date" information, expected shelf life is long.

Note: If labels list only the ingredients, this gives students less information. They may only be able to deduce that sugar or starch is the main ingredient in the products selected. Thus, it would be more educational to include as many labels with nutrition information as possible.

Discuss positive and negative aspects of these foods. Some of them are listed below.

Positive
Sugar makes food taste good.
Carmel (sugar) adds texture and color to bakery products.
Sugars help thicken, firm, or preserve foods.
Unenriched products may cost less.

EXPECTANCIES	ILLUSTRATIVE OBJECTIVES			
STUDENTS WILL:	By the completion of the following grade levels, students will be able to:			
	K-2	**3-5**	**6-8**	**9-12**
1.2.6 Assess their own fitness needs and limitations and develop a sequentially designed personal fitness program.	1) Recognize some of their own needs and limitations in the fitness area.	2) Interpret norm expectations in relationship to their own performance.	3) Relate numerous exercises to the fitness components which they enhance. 4) Set realistic personal fitness goals based upon their results in fitness tests. 5) Develop plans for a personalized program in given areas of fitness.	6) Select numerous activities and exercises to reach desired fitness goals. 7) Prepare personal fitness programs which reflect an ability to evaluate their own level of fitness and to plan for improvement.

GOAL 1
To develop an acceptable level of fitness, an understanding of the components of fitness, and an appreciation of the lifelong value of fitness through personalized physical education activities.

SUBGOAL 1.3
Demonstrate an appreciation of fitness.

EXPECTANCIES	ILLUSTRATIVE OBJECTIVES			
STUDENTS WILL:	By the completion of the following grade levels, students will be able to:			
	K-2	**3-5**	**6-8**	**9-12**
1.3.1 Project through psychomotor actions a positive attitude toward regular involvement in fitness activities.	1) Participate eagerly in fitness activities daily at school and at home.	2) Participate enthusiastically in a wide variety of conditioning activities within and beyond the school setting.	3) Perform a cooperatively designed fitness program regularly throughout the year. 4) Participate in vigorous intramural sports or other extra-class fitness activities.	5) Participate in elected physical education class and extra-class activities which address their fitness needs. 6) Execute a self-designed and self-managed fitness program at least three times weekly on a regular basis. 7) Participate in community fitness activities such as fun-runs, bike-a-thons, or jump rope-a-thons.
1.3.2 Express through cognitive behaviors a positive attitude toward the development and lifelong maintenance of fitness for all.	1) Describe fitness pursuits of family members, neighbors, and friends.	2) Suggest fitness activities which they feel may be beneficial for themselves and others.	3) Describe to others the values which they feel are gained from a fitness lifestyle. 4) Participate actively in fitness discussions to increase their knowledge and to share information.	5) Assist friends and family members in developing personal and group fitness programs. 6) Inform others of fitness opportunities available in the community.

SUMMARY OF CHANGES IN CONTENT AND EMPHASIS IN K—4 MATHEMATICS

INCREASED ATTENTION

NUMBER
- Number sense
- Place-value concepts
- Meaning of fractions and decimals
- Estimation of quantities

OPERATIONS AND COMPUTATION
- Meaning of operations
- Operation sense
- Mental computation
- Estimation and the reasonableness of answers
- Selection of an appropriate computational method
- Use of calculators for complex computation
- Thinking strategies for basic facts

GEOMETRY AND MEASUREMENT
- Properties of geometric figures
- Geometric relationships
- Spatial sense
- Process of measuring
- Concepts related to units of measurement
- Actual measuring
- Estimation of measurements
- Use of measurement and geometry ideas throughout the curriculum

PROBABILITY AND STATISTICS
- Collection and organization of data
- Exploration of chance

PATTERNS AND RELATIONSHIPS
- Pattern recognition and description
- Use of variables to express relationships

PROBLEM SOLVING
- Word problems with a variety of structures
- Use of everyday problems
- Applications
- Study of patterns and relationships
- Problem-solving strategies

INSTRUCTIONAL PRACTICES
- Use of manipulative materials
- Cooperative work
- Discussion of mathematics
- Questioning
- Justification of thinking
- Writing about mathematics
- Problem-solving approach to instruction
- Content integration
- Use of calculators and computers

Excerpts from Sample Guides

SUMMARY OF CHANGES IN INSTRUCTIONAL PRACTICES IN 9—12 MATHEMATICS

INCREASED ATTENTION to—

- The active involvement of students in constructing and applying mathematical ideas
- Problem solving as a means as well as a goal of instruction
- Effective questioning techniques that promote student interaction
- The use of a variety of instructional formats (small groups, individual explorations, peer instruction, whole-class discussions, project work)
- The use of calculators and computers as tools for learning and doing mathematics
- Student communication of mathematical ideas orally and in writing
- The establishment and application of the interrelatedness of mathematical topics
- The systematic maintenance of student learnings and embedding review in the context of new topics and problem situations
- The assessment of learning as an integral part of instruction

DECREASED ATTENTION to—

- Teacher and text as exclusive sources of knowledge
- Rote memorization of facts and procedures
- Extended periods of individual seatwork practicing routine tasks
- Instruction by teacher exposition
- Paper-and-pencil manipulative skill work
- The relegation of testing to an adjunct role with the sole purpose of assigning grades

The Core Curriculum

The core curriculum for all students is the most fundamental change proposed for grades 9—12. It is very important for the reader of these standards to understand (1) exactly what is and is not being proposed, (2) the advantages of the core curriculum over current practice, and (3) the implications for teaching as decision making.

What is and what is not being proposed. For emphasis, we repeat the core-curriculum assumption here (slightly modified to highlight its significant characteristics):

> [These] three years of [required] mathematical study will revolve around a core curriculum differentiated by the depth and breadth of the treatment of topics and by the nature of applications.

This assumption proposes that the *curriculum topics* described in this document apply to *all* students—except where the topics are specifically

Mathematics

Purpose (examples of questions asked)	For Whose Use	Unit of Assessment	Type of Assessment	Assessment Methods
Diagnostic ♦ What does this student understand about the concept or procedure? ♦ What aspects of problem solving are causing difficulty? ♦ What accounts for this student's unwillingness to attempt new problems or see the application of previously learned materials?	Individual teacher Individual student	Individual student	♦ Tasks that focus on a specific skill, type of procedure, concept, strategy, or a type of reasoning ♦ Each student evaluated	♦ Observation ♦ Oral questions that ask students to explain their procedures ♦ Focused written tasks ♦ Directed test items
Instructional Feedback ♦ What do students know about the material presented? ♦ Can students apply their learning to new situations? ♦ Do students understand the connections among ideas? ♦ How shall I pace instruction? ♦ Does the class need more intensive review or more challenging material?	Individual teacher	Class	♦ Tasks that require an integration of knowledge ♦ Tasks that cover a range of skills, concepts, and procedures ♦ Tasks that require the application of learning to new contexts ♦ Problem-solving and reasoning tasks ♦ Tasks that vary the format and context in which the material is presented ♦ Matrix-sampling test situations	♦ Written tests, including those that require differential methods for solutions to problems ♦ Class presentations ♦ Extended problem-solving projects ♦ Observation of class discussion ♦ Take-home tests ♦ Homework, journals ♦ Group work and projects
Grading ♦ How well has this student understood and integrated the material? ♦ Can this student apply his or her learning in other contexts? ♦ How prepared is this student to proceed to the next grade or level?	Individual student Parents School	Individual student	♦ Tasks that demand the integration of material that was taught ♦ Tasks that are intrinsically interesting and challenging to the student ♦ Tasks that require the student to structure the material and generate solutions, in the context of the real world, as well as in mathematics	♦ Extended problem-solving projects ♦ Papers or written arguments that demand thoughtful inquiry about a mathematical topic ♦ Written tests that present problems with a range of difficulty based on expectations for course ♦ Oral presentations

Excerpts from Sample Guides

Purpose (examples of questions asked)	For Whose Use	Unit of Assessment	Type of Assessment	Assessment Methods
Generalized mathematical achievement ◆ How does the general mathematical capability of this student compare with others or with a national norm?	Parents Teachers Administrators	Individual student	◆ Tasks organized in highly reliable tests designed for maximum discrimination among students	◆ Standardized achievement tests
Program Evaluation ◆ How effective is this instructional program in achieving our goals for mathematical learning?	Teachers Administrators Other decision makers	Class School	◆ Tasks that reflect the intent of the curriculum goals ◆ Tasks that are aligned to the instructional methods and content of the curriculum (see Standards 12 and 13) ◆ Matrix-sampling test situations	◆ Student interviews ◆ Performance tests ◆ Criterion-referenced tests ◆ Observation of class discussions ◆ Success of students who have completed the program

GOOD SCIENCE IN A NUTSHELL
-HIGH SCHOOL-

EFFECTIVE CURRICULUM

All students take two years of the biological and physical sciences as part of their core program. The science department offers other courses for students expressing an interest in broader, deeper science course work.

The overall science program includes a balance of life, earth/space and physical science concepts.

Students participate in laboratory activities approximately 40% of the instructional time. Demonstrations, simulations, and student discussion time contribute to the experimental science program.

The sequential teaching of the science process skills is a regular part of the curriculum. Teachers understand the difference between teaching these skills and asking students to apply the skills without diagnosis and instruction.

Students are asked to retrieve and apply concepts learned in elementary and intermediate schools and are sequentially reintroduced to those concepts at a higher cognitive level.

Teachers are actively involved in a plan to provide the articulation needed to make the spiraling concept work.

INEFFECTIVE CURRICULUM

Students taking a college preparatory schedule take biology and chemistry. They never receive instruction in earth/space science.

Some content areas are left out of the curriculum, entirely. For example earth science listed among the strands of the physical science course, but is not actually taught during that course.

Students have sporadic science activities that engage them in active learning. Vocabulary laden text reading, non-interactive software and video viewing, and lecture contribute to passive science lessons.

Students asked to use a process skill, such as formulating a hypothesis, without being taught the enabling skills needed for success. For example, they are asked to design an experiment without first learning to effectively observe, communicate, compare, organize and formulate hypotheses.

Students are introduced to concepts selected at random with emphasis placed on those concepts preferred by the teacher. Concepts are taught from the beginning level regardless of previous learning in-that area.

Teachers are not aware of which concepts are taught in the elementary and intermediate schools, nor the depth of instruction in those concepts. A plan to provide for effective articulation is not evident, or is not in use. Teachers plan their lessons with outdated or inaccurate ideas of what is being taught at other levels.

Regardless of what entry level science students take, they are able and encouraged to enter the advanced (college prep) science.

Students who enroll in general, life and physical science courses are considered terminal.

Excerpts from Sample Guides

EFFECTIVE INSTRUCTION

By applying the process skills in problem solving, students are put in charge of their own learning. The students: Observe, record, and organize data; Formulate hypotheses and design experiments; Analyze experimental data, draw conclusions, and develop alternative solutions; Solve complex meaningful problems.

The teacher emphasizes experiential learning through activity-based instruction. The students perform laboratory activities in order to understand and verify concepts and natural phenomena. They demonstrate their abilities to apply a variety of laboratory techniques and manipulative skills

Instruction in the science curriculum focuses on the content and process of science through problem-solving by experiments and other means of investigation.

INEFFECTIVE INSTRUCTION

The teacher shows the students how to solve the problem and then the students perform the experiment or investigation. Students are not encouraged to design their own hypotheses in trying to solve a problem.

Students learn concepts by reading the book, listening to the teacher, watching videos, and doing worksheets. Demonstrations are provided by the teacher, but students do not participate in hands-on activities. Students use the laboratory only for verifying concepts and/or learning lab techniques. Students already know the answers to problems they are asked to solve in the laboratory. Students spend most of their time in experiences that only require recall and comprehension. Problem solving experiences are scheduled in the curriculum only once or twice a year. Most of the experiences are teacher directed.

Lessons follow the textbook. Analysis and discussion of ethical issues occur only when they are addressed in the book. Ethical issues are selected out of context and the students see no relationship between the issues and its importance in their lives. An issue is analyzed and discussed, but the science concepts involved in the issue are not included in the lesson.

EFFECTIVE PROGRAM

Students have frequent experiences that develop their thinking, communication, and learning skills in science. These activities are open-ended, student-directed, and interdisciplinary.

Students have regular opportunities for analysis and discussion of the ethical issues of science and technology. The discussions are based on an understanding of the scientific concepts and related to issues that students are interested in and care about.

Teachers utilize community resources by forming alliances with:
- -Museums
- -Science fairs/expos
- -Organizations of science teachers
- -Educational television
- -Universities and colleges
- -Industry
- -Governmental agencies

All science teachers are highly knowledgeable about science, skilled in the scientific process, and are able to instill in their students a positive attitude about science and a desire to learn more.

The teachers utilize staff development opportunities to keep current with scientific advancement and to refine their instructional skills.

Science

The departmental staff works together to evaluate the science curriculum and instructional methods in order to ensure consistency, coordination, and alignment among the courses and to plan programmatic improvements as needed.

The administration at the school and the district support the science program by providing the facilities, equipment, and materials needed to implement a high-quality science program.

INEFFECTIVE PROGRAM

Teachers are not members of any professional organizations which could be a resource for science. Teachers are not aware of what resources are available in their community.

Some of the teachers have limited science backgrounds, do not like teaching science, and/or are not interested in learning more. Several teachers are teaching classes in science as well as other subject areas (i.e. two periods of science and four periods of history or physical education).

Teachers do not attend conferences, extended education courses, or district/school staff development activities in science or instructional methods.

There is no plan for regular departmental articulation. The science curriculum and instruction program is not evaluated by the staff on a regular basis. The program remains the same regardless of student needs unless changes are made by the administration.

The facility does not have adequate safety equipment such as goggles and sterilizer, proper storage for chemicals and equipment, or adequate water supply.

There is only enough equipment for demonstrations instead of individual student or group activities.

There is no allowance for the replacement, upkeep, and repair of equipment.

EFFECTIVE ASSESSMENT

Students performance is evaluated consistent with the curricular and instructional codes set for the science classes. That is, a balance of items dealing with earth, life, and physical science (depending on the course); a consistent assessment of the science process skills and simulations and performance tests of roughly 40% laboratory skill development.

Grading focuses on how well students can apply science learning to new and meaningful problems or situations.

Student performance is regularly monitored and fed back directly to students.

Students help build assessment and grading procedures based on their interests and abilities in learning science.

INEFFECTIVE ASSESSMENT

Paper and pencil assessment that emphasizes life science content knowledge and excludes other types of information and ways of knowing.

Grading practices emphasizes factual recall and does not require problem solving in a way that creates a meaningful assessment function.

Students are assessed only twice in a semester and little diagnostic feedback is provided.

Students take tests that do not relate to the projects, labs, science fairs and other "performance oriented" aspects of science instruction.

Program Guidelines—Social Studies

Social Studies programs have a responsibility to prepare young people to identify, understand, and work to solve the problems that face our increasingly diverse nation and interdependent world. Over the past several decades, the professional consensus has been that such programs ought to include goals in the broad areas of knowledge, democratic values, and skills. Programs that combine the acquisition of knowledge and skills with the application of democratic values to life through social participation present an ideal balance in social studies.

In a good social studies program, students:

1. Learn about the past to better understand the present, in order to anticipate and prepare for the future.
2. Develop an understanding of and an appreciation for our American Heritage.
3. Understand the relationship between human societies and their physical world.
4. Understand how the economy and a changing work place affect their lives now and in the future.
5. Increase their understanding of and appreciation for systems of law.
6. Accept the integrity and importance of the individual in the context of his/her culture and appreciate the multicultural nature of our society (United States) and the world.
7. Understand the interdependence of their own community and the world.
8. Recognize change as a natural part of life and learn to deal with it effectively.
9. Appreciate self and demonstrate respect for every human being.
10. Develop critical thinking skills.
11. Improve their individual and group communication skills.
12. Demonstrate responsible citizenship through active participation.

Business Education Standards—1989

Major Concepts/Skills

A. Students at the high school level will be able to demonstrate competency in accounting.

Given one year of instruction in accounting, the student will be able to:

1. Describe, orally or in writing, how errors in accounting records may be detected and eliminated, with complete accuracy.
2. Indicate how each of five types of accounts is increased or decreased with 100 percent accuracy.
3. Enter the transactions in the correct expense columns for 20 simple cash transactions.
4. Select and list the accounts that would be affected by ten transactions involving cash receipts and cash payments from a chart of accounts.
5. Determine the balances of ten "T" accounts and list the titles and balances for a single proprietorship business, each with both debit and credit entries, with at least 95 percent accuracy.
6. Select "T" accounts that would appear on a balance sheet and those that would appear on a statement of income and expenses.
7. Identify which transactions would be entered in each of the following journals: general, cash receipts, cash payments, sales and purchases.
8. Post the transactions from a completed cash payments journal and a completed cash receipts journal to "T" accounts that have folio columns with 100 percent accuracy.
9. Construct a trial balance from a set of "T" accounts with complete accuracy.
10. Extend the balances from the trial balance columns of a worksheet with complete accuracy and with the section correctly ruled and balanced.
11. Point out where both manual accounting procedures and computerized accounting procedures might be justifiably used.

Keyboarding
Grade: 3 through 8
Length: Semester

Rationale

The term "keyboarding" evolved with the advent of electronic keyboards such as those found on computer terminals, microcomputers and word processing equipment. Generally, keyboarding has come to mean the process of inputting information through an electronic keyboard. To enter information efficiently through the keyboard, the operator must learn how to manipulate the keyboard "without looking." Here the term keyboarding will mean operating the alphanumerical keys of an electronic keyboard by touch.

Keyboarding may be taught using either the electronic keyboard or a standard electric typewriter keyboard. Because of the crisp touch required, some evidence appears to indicate that a student will develop better basic stroking techniques on the electric typewriter keyboard than on the electronic keyboard. If an electric typewriter is used to teach the keyboarding course, touch control of the numeric keypad may be taught on a calculator with a standard, full-size 10-key keyboard. The primary purpose of this course is to help students develop accuracy and speed by learning the touch operation of the alphanumeric keyboard characters. Topics covered include: simple proofreading techniques, basic operation of equipment and building language skills through simple composition.

Excerpts from Sample Guides

There is little evidence substantiated by research which would indicate a minimum grade level at which keyboarding might be taught effectively. In schools where microcomputers are used extensively in the upper elementary grades, it is strongly suggested that school officials make every effort to provide a qualified keyboarding course at these grade levels so that students may utilize the equipment efficiently. In addition, this would assure that students would not develop improper (sometimes irreversible) keyboarding habits which would hamper future growth in microcomputer or typewriter usage.

It is essential that a teacher properly trained by assigned to teach the keyboarding courses.

Major Concepts/Skills

Elementary Keyboarding—Grades 3-4

A. Students at the elementary school level will demonstrate competency in keyboarding by meeting the following standards.

Given one quarter of instruction in keyboarding, the students will be able to:

1. Know proper care, handling and usage of equipment.
2. Copy material of low syllabic intensity at a rate of 15 wpm/1 min./1 error per minute.
3. Keyboard a list of numbers each containing from two to four digits, at a rate of 60 keystrokes per minute with an error limit of two on a one-minute timing.
4. Proofread and detect errors on keyboarded material with no more than five undetected errors.
5. Correctly operate the functional machine parts or control keys required to complete the keyboarding assignment.
6. Compose a simple report making any necessary corrections and meeting standards set by the teacher.

Keyboarding I—Middle School/Junior High

A. Students at the middle school/junior high level in keyboarding I will demonstrate competency by meeting the following standards.

Given one semester of instruction in Keyboarding I, the students will be able to:

1. Know proper care, handling and usage of equipment.
2. Demonstrate proper posture and keyboarding techniques. NOTE: Proper techniques allows for increased accuracy and proper technique to avoid bad habits which will carry on through the years.
3. Identify parts and demonstrate functions of their machine.
4. Keyboard numbers, letters & symbols with proper position and fingering techniques.
5. Keyboard alphabetic and numeric keys—30 wpm/5 min./1 error per minute.
6. Format and keyboard letters, memos, envelope addresses and labels with 100 percent accuracy.
7. Format and keyboard manuscripts and reports with 100 percent accuracy.
8. Format and keyboard centering and tabulation activities with 100 percent accuracy.
9. Identify errors and make corrections using proofreader marks and the correction method outlined by the instructor with 95 percent accuracy.
10. Keyboard from rough draft copy a final copy making all needed corrections with 100 percent accuracy.
11. Keyboard from rough draft copy—letters, memos, manuscripts, reports, and tables with no more than one formatting or typographical error.
12. Compose at the keyboard a simple letter or report meeting speed and accuracy standards set by the instructor.

Library Media

I.
INQUIRY AND INVESTIGATION

Instruction in research and reference skills, through the process of inquiry and investigation, is provided in sequence and includes a variety of instructional formats. A skill might be introduced earlier or later than the grade level listed, as determined by the library media specialist and the classroom teacher, depending upon an individual student's need and ability, the academic framework of the school, and/or the grade levels encompassed in the school.

Library media center programs should be designed to "develop a commitment to lifetime learning with the capacity for undertaking new studies, synthesizing new knowledge and experience with the known, and refining the ability to judge" (Regents Action Plan). Library media center programs should be designed to encourage critical thinking, creative expression, and independent investigation and to provide for specific abilities and learning styles.

A.
Research Techniques

Objective: Students will develop an understanding of the information-seeking process and will determine what information they need and how to locate and use appropriate sources. Skills learned in the elementary grades (K-6) will be reviewed, as needed, in grades 7 and 8 and reinforced thereafter. The level at which a skill is introduced will be determined by the academic framework and grade structure in an individual school.

1. Task Definition

Students will:	**Teach**	**Reinforce**
a. Clearly define topic before starting a search for information.	7-8	9-12
b. Expand or narrow scope of research topic as needed.	7-8	9-12
c. Select the reference tool most appropriate for a specific purpose.	7-8	9-12
d. Construct a thesis statement.	10	11-12

2. Information-seeking Strategies

Students will:	**Teach**	**Reinforce**
a. Select appropriate and relevant materials on a topic or issue.	7-8	9-12
b. Recognize that a variety of resource materials are multicultural and interdisciplinary.	7-8	9-12

Students will:	Teach	Reinforce
c. Locate, organize, and use information through reading, listening, observing, and writing.	7-8	9-12
d. Recognize the availability of resource persons in the community and the tools of interviewing for communication and gathering information.	7-8	9-12
e. Identify the key words or subject headings used to locate materials.	7-8	9-12
f. Identify other sources for information: public and other community libraries, galleries, institutions, and government agencies.	7-8	9-12
g. Use computer systems, where available, to access relevant data bases.	7-8	9-12

3. Location of Materials

Students will:	Teach	Reinforce
a. Locate print and nonprint materials in the library media center.	7-8	9-12
b. Identify interlibrary loan procedures and use the services of the regional School Library Systems to locate information.	7-8	9-12
c. Recognize the significance of primary source materials.	7-8	9-12
d. Identify local, regional, and national data bases and procedures for their use (ERIC, BRS, DIALOG).	7-8	9-12

4. Use of Materials

Students will:	Teach	Reinforce
a. Use a wide variety of reference materials.	7-8	9-12
b. Determine the authoritativeness and reliability of resources.	7-8	9-12
c. Differentiate between fact, opinion, and propaganda.	7-8	9-12
d. Compare and contrast information from a variety of sources.	7-8	9-12
e. Develop an appropriate topical outline for note taking.	7-8	9-12
f. Organize and record relevant information, using a prepared outline.	7-8	9-12

5. Synthesis

Students will:	Teach	Reinforce
a. Develop a sentence outline for a report on the topic chosen for the research project.	7-8	9-12
b. Prepare a report on the topic to be presented in oral, written, multimedia, or other appropriate form.	7-8	9-12
c. Use footnotes and bibliographies for information and documentation of resources.	7-8	9-12
d. Adhere to copyright regulations and avoid plagiarism.	7-8	9-12
e. Compile bibliographies or lists of works cited.	7-8	9-12
f. Draw conclusions from a variety of resources such as interviews, biographies, periodical articles, etc., noting similarities and differences.	9	10-12

B.

Library Media Center Organization and Resources

Objective 1: Students will become independent users of print and nonprint resources through the identification and use of the types of materials listed in this section. These materials will be used as appropriate and pertinent for particular topics or issues.

Objective 2: Students will learn methods of inquiry and knowledge gained through the (secondary school) disciplines and use the methods and knowledge in (individual and) interdisciplinary applications (R.A.P. Goal 2).

1. General Organization of the Library Media Center

Objective: Students will become familiar with the organization of libraries and the importance of classification systems.

Students will:	Teach	Reinforce
a. Recognize the various collections in the library media center and know how they are organized.	7-8	9-12
b. Understand shelf arrangement, classification, circulation procedures, and behavioral expectations.	7-8	9-12
c. Respect library materials, handling carefully and returning on time.	7-8	9-12

2. Catalog (card catalog, computerized catalog, book catalog, etc.)

Objective: Students will become independent users of a catalog (card catalog, computerized catalog, book catalog, etc.) as a general index to a library.

Students will:	Teach	Reinforce
a. Use the catalog as a general index to the library media center.	7-8	9-12

Excerpts from Sample Guides

GUIDANCE

Guidance in Montana schools serves to maximize the personal and academic potential of students. All students, not only the handicapped or those with emotional and behavioral difficulties, need help in reaching their potential.

The term guidance connotes a somewhat different meaning to different observers. For the purpose of this document, guidance refers to specific educational services and techniques designed to affect the personal, social, educational and career/life planning development of students. Guidance is perceived as a composite encompassing an array of services. Typical services include: 1) *counseling*, both individual and group; 2) *student appraisal*, including testing, student records and test interpretation; 3) *consultation* with students, parents and school staff; 4) *information services* for educational, personal, social, career and orientation; 5) *referral services*, both community agencies and institutions of higher education;a nd 6) *placement* and *follow-up*, including scheduling, job placement, vocational training and surveys.

Guidance, with its many components and goals, becomes a specialized curriculum. Guidance personnel utilize a body of information and process skills which lead students to effectively take charge of directing their own lives.

Students' need for guidance is greater than ever. Value conflicts, disruption of the basic family unit, limited employment opportunity for youth and rapid change in our social order all affect Montana students as they make decisions which give direction and meaning to their lives. The stability of family, friends and community is changing with family mobility, divergent values and life styles and the complexity of daily living. Today's students have many choices to make which affect their lives, now and in the future. The family and community need help to assist youth progress in today's society.

Comprehensive guidance programs appear to best serve the divergent and changing needs of students. Research clearly indicates that delinquency, school dropouts and potential behavior disorders can be predicted very early in the elementary grades. Comprehensive guidance programs provide preventive developmental services at the kindergarten level and continue throughout the school years.

The demand for accountability in the guidance profession has drastically increased over the last decade. Guidance programs can, and should, be accountable. Guidance must do more than mean well; it must demonstrate it does well. Being accountable is simply demonstrating that the guidance program does make a positive difference in the lives of students. Positive student outcomes must be identified and evaluated to demonstrate accountable guidance programs. These guidelines present a systematic process to comprehensive guidance programming which documents guidance accountability.

A comprehensive guidance program involves a variety of people in the delivery of services. Counselors, school psychologists, home-school coordinators, and other pupil personnel service workers have the major responsibility for the program, but they cannot do it alone. Administrators, teachers, parents and even the students themselves, as peer counselors, are all participants in the comprehensive guidance program. Students of all ages need help in:

* understanding themselves and their relationships with others
* personal and social development
* decision making skills
* educational and career awareness of opportunities for study and work
* appreciation and understanding of their own abilities and values which will be the basis for guiding their lives

The school counselor is dependent upon the support and efforts of others to meet the needs of students. A comprehensive guidance program must be a cooperative effort, and the chapters which follow are written for a variety of people who might be involved. The guidelines are designed to help board trustees, administrators, teachers, counselors and other interested persons understand the nature of a comprehensive guidance program. Concrete steps are presented to assist school personnel improve the program in their community. Responsibilities are defined, and useful resources are listed. The material presented should not be thought of as a cookbook. It merely presents a road map which shows how to get there once it has been decided where to go. Local student needs, staff, resources and priorities will require somewhat different programs. These guidelines present a process to help guidance programs in Montana be productive, relevant and accountable.

The overall purpose of *Guidance in Montana Schools: Guidelines for Comprehensive Program Development K-12* is to assist local school districts:

* develop comprehensive K-12 guidance programs based on identified student needs
* establish accountable guidance programs
* ensure a cooperative effort among school personnel for the delivery of guidance services
* maximize the use of available resources for guidance programming, both human and material
* improve existing programs for the benefit of all students in the state of Montana.

Appendix C

A Checklist for Guidance Programs

This checklist will help you assess the current status of the school's guidance program. Place a check in the space provided if you can answer yes to the question. An appropriate way to use this checklist would be to have various school groups, including school board trustees, administrators, counselors and teachers, complete the checklist and compare their perceptions.

_____ 1. Does a guidance program exist, as opposed to a series of isolated services?

_____ 2. Is the guidance program accountable in that it shows measurable outcomes?

_____ 3. Does the guidance program serve all children?

_____ 4. Does the guidance program have a developmental emphasis?

_____ 5. Does the guidance program involve cooperation between teachers, counselors, parents, administrators and community agencies?

_____ 6. Are the guidance services understood and utilized by the population for whom they are intended?

_____ 7. Is the guidance program systematically planned, implemented and evaluated?

_____ 8. Is the guidance program designed to meet the unique characteristics and student populations of the school and community?

_____ 9. Is there administrative support for the guidance program?

_____ 10. Is there a board of trustee endorsed guidance philosophy statement?

_____ 11. Is there a guidance committee, representative of students, teachers, counselors, parents, administrators and community members, which serves to advise, improve, implement and evaluate guidance services?

_____ 12. Is the guidance program established on the basis of identified student needs, as perceived by students, teachers, counselors, parents, administrators and community representatives?

_____ 13. Does the guidance program reflect the identified needs?

_____ 14. Are objectives written with measurable outcomes?

_____ 15. Are there sufficient facilities to carry out the program?

_____ 16. Are there sufficient resources, both human and material, available to the program?

_____ 17. Does the program utilize competencies of all available personnel?

_____ 18. Does the program provide for staff development when necessary?

_____ 19. Does the program provide for an annual report which gives an accurate account of program effectiveness?

—Items 1 through 9 refer to the comprehensiveness of the guidance program. Consideration should be given to any item without a check. Is there a need for change, revisions and/or further evaluation?

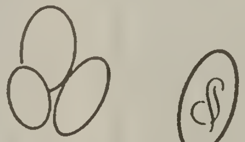
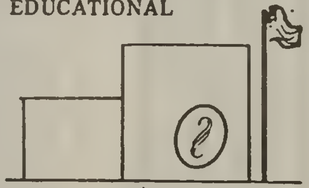
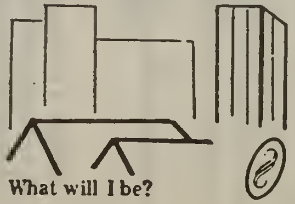
—Items 10 through 19 refer to a process for comprehensive program development. The items are listed in sequential order. Consideration should be given to any item without a check. Is there a need for comprehensive program development?

Appendix D

Developmental Needs Chart

This chart illustrates developmental needs of students at various stages during their school years. A review of literature in the area of child development identified widely accepted developmental stages and tasks of students. Development is viewed as a patterned, cumulative and life-long process. Developmental stages identify the relative age span in which specific developmental tasks should be optimally achieved in normal growth and development. These developmental tasks have been translated into developmental needs. Recognition must be made that the needs are representative of developmental tasks, rather than a comprehensive listing. The uniqueness of each student is exemplified by the overlapping and cumulative nature of the needs.

The chart may be utilized to establish needs assessment instruments cognizant of developmental concerns.

	K-3	4-6	7-8	9-12
PERSONAL Who am I?	● Personal initiative ● Physical independence ● Needs security & control in the environment	● Conscience & morality ● Personal values ● Self-worth	● Positive & realistic self-concept ● Acceptance of sexuality & physical image ● Self-direction & independence	● Personal independence as a responsible adult ● Intrinsic & self-oriented value information
SOCIAL  How do I relate with others?	● A sense of belonging ● Social interaction with family, peers & others	● A sense of social adequacy ● Understanding needs & rights of others ● Identification & participation with social groups	● Gaining social recognition ● Establishing close peer relationships	● Development of values & responsibilities to self, others & society ● Abilities & skills in establishing & maintaining family, peer & community relationships
EDUCATIONAL  What and why will I learn?	● Realization of meaning & values of learning	● Mastery of increasingly challenging academic tasks	● Achievement motivation ● Goal formation	● Realization of intellectual development ● Formulation & attainment of realistic long-term goals
CAREER/LIFE PLANNING  What will I be?	● Understanding nature & values of occupations at home, school, & within the community	● Identify & assess areas of strengths, aptitudes & interests ● Obtain occupational information	● Assessment of individual values, interests, aptitudes & abilities & the relationship to career development ● In-depth exploration into career fields and specific occupations	● Facilitate the preparation & planning for postsecondary education, training, and/or work

Resource Personnel: Montana Office of Public Instruction

The following Office of Public Instruction personnel are available for assistance in curriculum work:

Agriculture Education	Leonard Lombardi	444-4451
Arts in Education	Janet Klecker	444-4442
Bilingual Education	Angela Branz-Spall	444-2423
Business and Office	Marion Reed	444-4454
Career Education	Judy Birch	444-5663
Community Education	Kathleen Mollohan	444-4423
Consumer Education	Mary McAulay	444-2059
Elementary Curriculum	Ann Ford	444-3638
English Language Arts	Jan Cladouhos	444-3714
Fine Arts (visual arts, music, creative movement, dance, drama)	Janet Klecker	444-4442
Foreign Languages	Duane Jackson	444-3129
Gifted and Talented	Michael Hall	444-4422
Guidance and Counseling	Judy Birch	444-5663
Health & Physical Education/ Health Enhancement	Spencer Sartorius	444-4434
Indian Education	Bob Parsley	444-3013
Library Media	Vacant	
Marketing & Distributive Education	Roger Swearengen	444-4556
Mathematics/Computer Education	Dan Dolan	444-4436
Nutrition Education	Ann Ferguson	444-4414
Reading	June Atkins	444-3664
Science/Environment/Energy	Bob Briggs	444-4439
Social Studies	Vacant	
Special Education	Bob Runkel	444-4429
Technical Education	Jeff Wulf	444-4452
Traffic Education	Curt Hahn	444-4432

The Office of Public Instruction offers the Audiovisual Library to assist school districts in supplementing curriculum. Media is available on a rental fee basis and is available in 16mm and video formats. For more information, call Jim Meier at 442-3170.

Professional Organizations

Advocates for Language Learning, P.O. Box 4964, Culver City, CA 90231 (213) 397-2448
Alliance for Arts Education (AAE), John F. Kennedy Center for the Performing Arts Washington, D.C. (202) 254-7190
American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) 1900 Association Dr., Reston, VA 22091 (703) 476-3466
American Alliance for Theatre & Education (AATE), Theatre Arts Dept., Virginia Tech, Blacksburg, VA 24061-0141
American Association for Counseling and Development, 5999 Stevenson Ave., Alexandria, VA 22304 (800) 545-2223

American Association of Teachers of French, 57 East Armory Ave., Champaign, IL 61820 (217) 333-2842
American Association of Teachers of German, 112 Haddentowne Court #104, Cherry Hill, NJ 08034 (609) 795-5553
American Association of Teachers of Spanish and Portuguese, P.O. Box 6349, Missississippi State, MS 39702 (601) 325-2041
American Council on the Teaching of Foreign Languages, 6 Executive Blvd. Yonkers, NY 10701 (914) 963-8830
American Federation of Teachers, AFL-CiO, 11 DuPont Circle N.W., Washington, D.C. 20036 (202) 797-4400

American Home Economics Association, 2010 Massachusetts Ave., Washington, D.C. 20036
American Industrial Arts Association, 1914 Association Dr., Reston, VA 22091 (703) 860-2 1 00
American School Health Association (ASHA), 7263 State Route 43, P.O. Box 708, Kent, OH (216) 678-1601
Association for Supervision and Curriculum Development (ASCD), 1250 N. Pitt St., Alexandria, VA 22314 (703) 549-9110
Council for Exceptional Children, 1920 Association Dr., Reston, VA 22091

Getty Center for Education in the Arts, 1875 Century Park East, Suite 2300, Los Angeles, CA 90067-2561 (213) 277-9188
Home Economics Education Association, 1201 1 6th St. N.W., Washington, D.C. 20036 (202) 833-4138
International Listening Association, 366 N. Prior Ave., St. Paul, MN 55104
International Reading Association, 800 Barksdale Rd., P.O. Box 8139, Newark, DE 19711 (302) 731-1600
Marketing and Distributive Education Association, 1908 Association Dr., Reston, VA 22091 (703) 476-4299

Music Educators National Conference (MENC), 1902 Association Dr., Reston, VA 22091 (703) 860-4000

Professional Organizations

National Art Education Association (NAEA), 1916 Association Dr., Reston, VA 22091 (703) 860-8000
National Association of Elementary School Principals, 1901 N. Moore St., Arlington, VA 22209 (703) 528-6000
National Association for Gifted Children, 4175 Lovell Road, Suite 140, Circle Pines, MN 55014 (612) 784-3475
National Association of Secondary School Principals, 1904 Association Dr., Reston, VA 22091 (703) 860-0200

National Association of Vocational Education Special Needs Personnel, P.O. Box 911 Harrisburg, PA 17108
National Business Education Association, 1906 Association Dr., Reston, VA 22091 (703) 860-0213
National Council for the Social Studies, 3615 Wisconsin Ave., N.W., Washington, D.C. 2001 6 (202) 966-7 840
National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801 (217) 328-3870
National Council of Teachers of Mathematics, 1906 Association Dr., Reston, VA 22091 (703) 620-9840

National Education Association, 1201 1 6th St., N.W., Washington, D.C. 20036 (202) 8 3 3-4000
National Endowment for the Arts (NAE), (Room 602) 1100 Pennsylvania Ave., N.W., Washington, D.C. 20506 (202) 682-5416
National Endowment for the Humanities (NEH), (Room 302) 1100 Pennsylvania Ave., N.W., Washington, D.C. 20506 (202) 786-0377)
National Network for Early Language Learning, P.O. Box 4982, Silver Springs, MD 20904
National Science Teachers Association, 1742 Connecticut Ave., N.W., Washington, D.C. 20009 (202) 265-4150

National Vocational Agricultural Teachers Association, 5600 N. Vernon Memorial Way, P.O. Box 15051, Alexandria, VA 22309
Speech Communication Association, 5205 Leesburg Pike, Falls Church, VA 22041 (703) 379-1888
Very Special Arts (VSA), John F. Kennedy Center for the Performing Arts, Washington, D.C. 20566 (202) 662-8899

Annotated Bibliography

General Curriculum Questions

Brandt, Ronald S. (editor) *Applied Strategies for Curriculum Evaluations* Alexandria, VA:
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This book discusses developing curriculum evaluation plans through a variety of evaluation approaches. It zeroes in on the evaluation of a middle school humanities program .

Brandt, Ronald S. (editor) *Content of the Curriculum* Alexandria, VA: 1988 ASCD Yearbook

This book discusses the curriculum of content from a point of view of subject areas of social studies, English, mathematics, science, foreign language, the arts, physical education, health education, industrial arts and home economics.

Current Thought on Curriculum, 1985 ASCD Yearbook

This book attempts to link curriculum theory with curriculum practice. It discusses current trends of American curriculum thought, psychological theory and curriculum, curriculum and technology, and curriculum from a global perspective.

Doll, Ronald C. *Curriculum Improvement: Decision Making & Process* (7th edition)
Boston: Allyn & Bacon, 19 89 .

This book discusses decision making in curriculum improvement and the processes involved in curriculum improvement.

Glatthorn, Allan A. *Curriculum Leadership* Glenview, IL: Scott, Foresman & Co., 1987. This book discusses the foundations of curriculum, curriculum processes, curriculum management and current trends in the curriculum.

Glatthorn, Allan A. *Curriculum Renewal* Alexandria, VA: ASCD, 1987

This book attempts to take the mystery out of curriculum renewal. Such topics as curriculum vocabulary, different types of curriculum, improving the curriculum and adapting the curriculum to individual differences.

McNeil, John D. *Curriculum—A Comprehensive Introduction* (3rd edition) Boston: Little, Brown & Co ., 1985

This book discusses conceptions of curriculum, curriculum development, managing the curriculum, issues and trends in curriculum and research theory as it is related to curriculum.

Oliva, Peter F. *Developing the Curriculum* (2nd edition) Glenview, IL: Scott, Foresman & Co., 1988.

This book contains a comprehensive analysis of the process of curriculum development. It discusses the theoretical dimensions of curriculum development, the roles of school personnel in curriculum development, the components of the process of curriculum development and the problems and products of curriculum development.

Communication Arts

Administrators Guide to Whole Language. Richard C. Owen, Publisher, 135 Katonah
Ave., Katonah, NY 10536

Alverman, Donna, et al. (editors). *Research Within Reach, Secondary School Reading.*
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Anderson, Richard C., et al. *Becoming A Nation of Readers: The Report of the Commission on Reading.* Champaign-Urbana, IL: Center for the Study of Reading, 1985

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A guide to building the reading/writing workshop approach, especially suitable to the middle grades, but applicable at any level.

Barnard, Douglas P. and Hetzel, Robert W. *Selecting a Basal Reading Program: Making the Right Choice.* Lancaster, PA: Technomic Publishing Co., Inc., 1988

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Calliman, Bernice E. *Literature and the Child* (2nd edition). San Diego, CA: Harcourt Brace Jovanovich, 1989

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Glatthorn, Allan. *A Guide for Developing an English Curriculum for the Eighties.* Urbana, IL: NCTE, 1980.

A blueprint for local educators to use to tackle curriculum planning systematically, this book shows how to integrate into the plan significant findings of research in learning, teachers' own knowledge of their field, and individual teaching styles.

Hancock, J. and Hill, S. *Literature-Based Reading Programs at Work.* Portsmouth, NH, 1988

Harste, Jerome. *New Policy Guidelines for Reading: Connecting Research and Practice.* Urbana, IL: NCTE, 1989.

To attain more coherent policies on reading instruction, Harste presents 20 principals that researchers, curriculum developers, administrators, and school board members can use to evaluate existing reading programs and redesign them to aim at higher levels of comprehension.

NCTE Committee to Evaluate Curriculum. *Recommended English Language Arts Curriculum Guides, K-12.* Urbana, IL: NCTE, annual

This aid to curriculum planners reviews selected guides available through ERIC.

Newman, Judith M. (editor). *Whole Language: Theory in Use.* Portsmouth, NH, 1985

Newman, Judith M. (editor). *New Directions in Reading Instruction.* Newark, DE: International Reading Association

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Twelve essays examine the writing process and show how classrooms can be set up to encourage students to act as writers.

Pearson, P.D. (editor). *Handbook of Reading Research.* New York, NY: Longman, 1984

Romano, Tom. *Clearing the Way: Working with Teenage Writers.* Portsmouth, NH: Heineman, 1987

Written for high school teachers whose job is to help teenagers become better writers, this book discusses the teacher-student conference, writing processes, evaluation, and other crucial elements of teaching English.

Samuel, J. and Pearson, P.D. (editors). *Changing School Reading Programs: Principals and Case Studies.* Newark, DE: International Reading Association, 1988

Stewig, John and Sam Sebesta. *Using Literature in the Elementary Classroom.* Urbana, IL: NCTE, 1989.

This essay collection focuses on the wealth of language learning possibilities that open up when teachers surround children with attractive and well-written books and know how to use them in imaginative ways.

Annotated Bibliography

Tierney, Robert J., et al. *Reading Strategies and Practices: Guide for Improving Instruction*

Zenger, Weldon F. and Zenger, Sharon K. Curriculum Planning: A Ten Step Process. Palo Alton, CA: R&E Research Associates, Inc., 1982

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Levine, Marsha and Trachtman, Roberta, eds. *American Business and the Public School: Case Studies of Corporate Involvement in Public Education.* Teachers College Press, 1234 Amsterdam Ave., New York, NY 10027, 1988.

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Gardner, Howard. *Frames of Mind: The Theory of Multiple Intelligences.* New York: Basic Books, 1983
Gardner suggests that the measure of human potential must be multidimensional: musical, spatial, kinesthetic, linguistic, mathematical, interpersonal and intrapersonal intelligences.

Visual Arts

Edwards, Betty. *Drawing on the Artist Within: An Inspirational & Practical Guide to Increasing Your Creative Powers.* Simon & Schuster, 1987

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Both of these books are useful for teachers to understand visual thinking and its application through drawing, the basis for the visual arts.

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Montana Visual Arts Curriculum Guide. Arts Education Program, Office of Public Instruction, State Capitol, Helena, MT 59620 (406-444-4442), 1989

Music

Multicultural Perspectives in Music Education. MENC Publications, 1902 Association Drive, Reston, VA 22091 (800-828-0229), 1989

> This book offers a pragmatic approach to teaching world music traditions. Included are lesson plans and ideas for 4-12 classes that examine the cultures of East Asia, Southeast Asia, India, South America, Africa, Middle East, Europe, European/American, Native American subcultures of the U.S.

Music Educators National Conference. *The School Music Program: Description and Standards* (2nd edition). MENC Publications, 1902 Association Drive, Reston, VA 22091 (800-828-0229), 1986

> This is basic to curriculum and program development within the school at all levels. Criteria for evaluation for basic and quality music programs are suggested.

Creative Movement/Dance

American Alliance for Health, Physical Education, Recreation and Dance. *Children's Dance, 1981, Movement Activities for Places and Spaces.* AAHPERD, 1900 Association Drive, Reston, VA 22091, 1983

> Fundamentals for dance and movement are offered for classroom teachers.

Kaufmann, Karen. *The Language of Movement: An Idea Book for Teachers.* 223 W. Kent, M issoula, MT 59801, 1989

> Four elements—body, space, time and energy—which are part of our everyday life, are analyzed and synthesized to become a language of movement. A supplement is on its way, containing creative movement units for teachers to use across the curriculum .

Drama

American Alliance for Theatre and Education. *A Model Drama/Theatre Curriculum: Philosophy, Goals & Objectives (K- 12).* Anchorage Press, P.O. Box 8067, New Orleans, LA 70182, 1987

> This is an excellent document designed to provide guidelines for teachers developing curriculum, integrated drama/theatre programs based upon individual learners. Here is rationale for educating students of all ages in- the discipline of theatre, with goals and objectives for building sequential learning experiences.

Way, Brian. *Development Through Drama.* University of London Press, London, 1967 This is a practical and theoretical guide to using drama in education as a means of developing human potential.

Foreign Language

Academic Preparation in Foreign Language for Transition from High School to College. New York: College Board Publications, 1986

> This handbook contains sections on proficiency and learner outcomes, curriculum development, teaching approaches and on the writing and culture.

ACTFL Provisional Proficiency Guidelines. Yonkers: American Council on the Teaching of Foreign Languages, 1982

> These guidelines are both generic and language specific. They address speaking, listening, reading, writing and culture. The ACTFL guidelines are the reference source for most of the work on foreign language proficiency.

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Asher, *J. Learning Another Language Through Actions.* Los Gatos, CA: Sky Oaks Productions, 1982
This book describes total physical response, the approach to language teaching which develops comprehension through physical action before oral communication is attempted by learners. Sample classroom lessons are included.

Cooper, T.C. (editor). *Research Within Reach (Research Guided Responses to the Concerns of Foreign Language Teachers).* Atkins, GA, 1985
This work addresses some of the most common questions or problems of foreign language teachers. Analysis of recent research is applied.

Finocchiaro, Mary. *The Foreign Language Learner: A Guide for Teachers.* New York: Regents Publishing Co., Inc, 1973
This is a basic background book of use to all foreign language teachers in reviewing the organization of the course. Although this reference has a great deal of information on content, teaching methods and testing, it does not specifically discuss curriculum organization.

Foreign Language Curriculum Guide. Atlanta, GA: Georgia Department of Education, 1981
This is a complete, though nonprescriptive, curriculum guide prepared by a committee of experienced classroom teachers. The guide has sections on goals and objectives, programs, teaching strategies, career education and resources. This guide is available in single copies from the Georgia Department of Education for $ 8 for hard copy or $1 for microfiche, prepaid .

Foreign Language Framework. Sacramento, CA: State Department of Education, 1989 This booklet has chapters which outline characteristics of an effective language program, characteristics of a well-planned program, the role of the school in terms of policy, resources and support, and the criteria for evaluating instructional material .

A Guide to Curriculum Planning in Foreign Language, Bulletin 6182. Madison, WI: Wisconsin Department of Public Instruction, 1986
This bulletin provides field test, complete curriculum planning K-12. It is based on proficiency guidelines.

A Guide to Proficiency-Based Instruction in Modern Foreign Languages for Indian Schools. Indianapolis, IN: Indiana Department of Education in cooperation with Indiana University, 1986
This guide focuses on communicative competence for levels I-IV. Generically stated learner outcomes are provided as well as skills involved, linguistic content and evaluation approach for each outcome.

Higgs, T.V. (editor). *Teaching for Proficiency, The Organizing Principle.* Lincolnwood, IL: National Textbook Company, 1984
This is a volume of the Foreign Language Education Series sponsored by the American Council on the Teaching of Foreign Language which addresses the issues and implications of the proficiency movement in foreign language instruction.

Secondary French, German, Spanish and Latin Guidelines. Austin, TX: Texas Education Agency, 1979
These guidelines are tentative course outlines which have been pilot tested by high school language teachers. Examples of learning objectives, learning activities, and activities for evaluation are offered for listening, speaking, reading, writing and for cultural acquisition. This material is not copyrighted. Examination copies are available from the Foreign Language Specialist in the Office of Public Instruction.

Secondary Language Studies Teacher Handbook K-12. Raleigh, NC: North Carolina Department of Public Instruction, 1985
This handbook is a competency based curriculum guide generic to all languages. It provides objectives and measures.

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Gifted & Talented

Clark, Dr. Barbara. *Growing Up Gifted,* 1988

Renzulli, Dr. Joseph (editor). *Systems and Models for Developing Programs for the Gifted and Talented.* Creative Learning Press, Merrill, 1986

Rimm, Dr. Sylvia and Dr. Gary Davis. *Education of the Gifted and Talented.* Prentice-Hall, 1989

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Health

Comprehensive Health Competencies and Key Skills for Missouri Schools. Missouri Department of Elementary and Secondary Education. P.O. Box 480, Jefferson City, MO 65101, 1989

Health Education, Comprehensive Curriculum Goals. Oregon Department of Education, 700 Pringle Parkway SE, Salem, OR 97310-0290

Montana Health Education Curriculum Planning Guide. Office of Public Instruction, State Capitol, Helena, MT 59620, 1986

Physical Education

A Guide to Curriculum Planning in Physical Education. Wisconsin Department of Public Instruction, 125 S. Webster St., P.O. Box 7841, Madison, WI 53707-7841, 1985

Montana in Action. Office of Public Instruction, State Capitol, Helena, MT 59620, 1986

Physical Education Competencies and Key Skills for Missouri Schools. Missouri Department of Elementary and Secondary Education, P.O. Box 480, Jefferson City, MO 65101, 1987

Physical Education Curriculum Guidelines. Office of the Superintendent of Public Instruction, Old Capitol Building, Olympia, WA, 1985

Health & Physical Education

State Goals for Learning and Sample Learning Objectives, Physical Development and Health. Illinois State Board of Education, 100 N. First St., Springfield, IL 62777, 1986

Mathematics

A guide to Curriculum Planning in Mathematics. Wisconsin Department of Public Instruction, P.O. Box 7841, Madison, WI 53707-7841

Annotated Bibliography

Curriculum and Evaluation Standards for School Mathematics. National Council of Teachers of Mathematics. Reston, VA, 1989

Everybody Counts: A Report to the Nation on the Future of Mathematics Education. Mathematical Sciences Education Board. Washington, DC, 1989

Handbook for Planning an Effective Mathematics Program K-12. California State Department of Education. Sacramento, CA, 1982

How to Evaluate Your Mathematics Curriculum. National Council of Teachers of Mathematics . Reston, VA, 1982

Improving Indicators of the Quality of Science and Mathematics Education in Grades K-12. National Academy Press, 2101 Constitution Ave., N.W., Washington DC 20418

Mathematics Curriculum Framework. Mathematical Sciences Education Board. Washington, DC 1989

Mathematics Framework for California Public Schools K- 12. California State Department of Education. Sacramento, CA (new edition 1990)

School Mathematics: Options for the 1990s. OERI, U.S. Department of Education, Washington, DC 20208

The Mathematics Report Card. NAEP, ETS, CN6710, Princeton, NJ 08541-6710

Science

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Getting Started in Science: A Blueprint for Elementary School Science Education. The Network, Inc., 290 S. Main St., Andover, MA 01810. $7 plus $2.50 postage.

Guidelines for Self Assessment. (Three levels—elementary, middle and high school), National Science Teachers Association, Publications, APN, 1742 Connecticut Ave. NW, Washington, DC 20009, $16.50 each.

Model Science Curricula. Order free (as available) from the Science Specialist, Office of Public Instruction, State Capitol, Helena, MT 59620

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Teaching Reading in the Social Studies: A Global Approach; Teaching Writing Skills: A Global Approach. Available from CTIR Press, Department 5, University of Denver, Denver, CO 80208, 1983, 1985

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Core Curriculum for Agricultural Education. Department of Agriculture and Technology Education, Montana State University, Bozeman, MT 59717.

Business Education Curriculum Guidelines and Resource Guide, Montana Office of Public Instruction, State Capitol, Helena, MT 59620.

Available from the Center for Vocational Education Research, Curriculum and Personnel Development, Northern Montana College, P.O. Box 7751, Havre, MT 59501:
—*Job Clusters, Competencies and Task Analysis in Agriculture, Forestry, Health, etc.*
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